VERMONT LIFE

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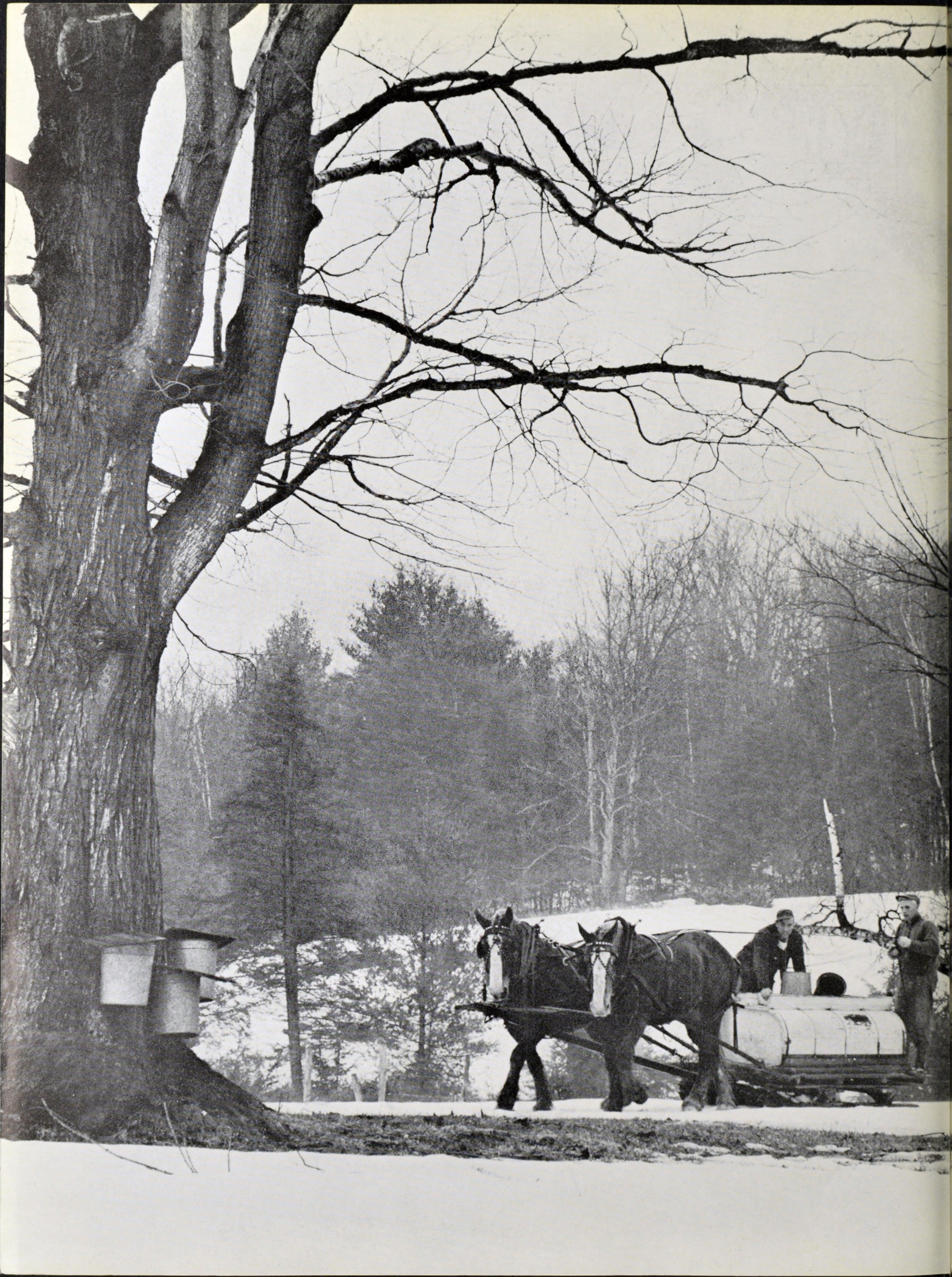

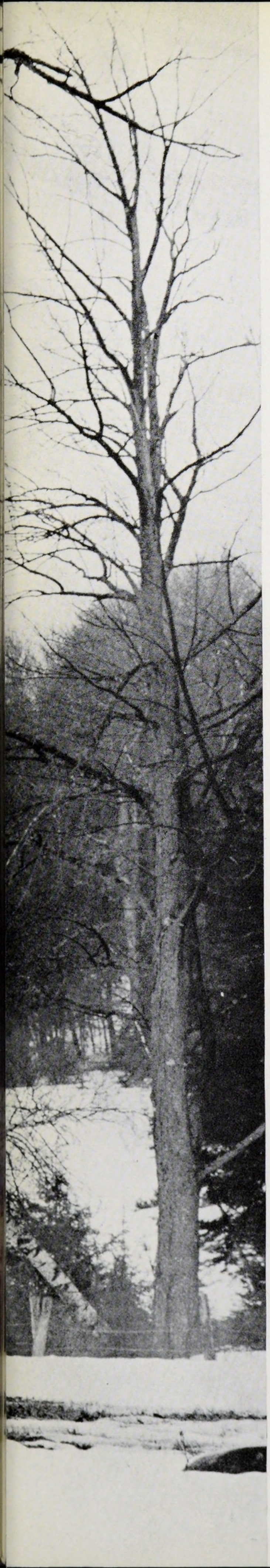

VERMONT LIFE

VOLUME XXI NUMBER 3 SPRING 1967

COLOR FEATURES

SPRING CONTRASTS **18** *A scenic color section*
BOYS IN SPRINGTIME **32** Hanson Carroll's *photographic essay*

NATURE

DANCE OF THE MAYFLIES **6** George Gordon *on a natural wonder*
THE ABSENT-MINDED HOARDER **15** Ronald Rood *reports on squirrels*

PEOPLE & BUSINESS

HALF A BILLION HONEY BEES **2** Seargent P. Wild *on the honey-makers*
GEOMETRY IN ACTION **9** Rockwell Stephens *reports on John Borden*
THE HORSES KNOW HOW **26** *Photographed by* David Plowden
THE SCATCHARD POTTERY **38** *Reported on by* Maxine Kenny
NATURE AND FRANCIS SOMERS **43** Louis Lamoureux *on Peacham*

ARCHITECTURE

RECESSED PORCHES **47** Nell Kull *examines a mystery*

DEPARTMENTS

VL REPORTS **52** *on vegetable gardening*
FOOD **54** *a springtime catch of perch*
GREEN MOUNTAIN POST-BOY **56** George Raftery *on "Opposing Change"*
INFORMATION DIRECTORY **57** *Special interest publications*

Left: *Sugaring at Guilford*, DAVID PLOWDEN (*also see picture story starting page 26*)

Covers: FRONT—*Beekeeper in Pomfret*, HANSON CARROLL (*also see article starttng page 2*)

BACK—*Spring plowing at Prosper*, DICK SMITH

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HARD WORK, LONG HOURS AND NO VACATION! EVEN SO,

over half a billion energetic Honey

ARE EMPLOYED ANNUALLY IN VERMONT

by SEARGENT P. WILD

Photographs by JOSEPH NOONAN

Bees

It no longer is true that Vermont has "more cows than people," but even when true there was always a chuckle in the story of the old farmer who explained why: "We prefer 'em."

It can hardly be said that Vermonters exactly prefer the summertime farm and orchard workers, of a kind that often outnumbers people by several hundred millions; with exceptions, few find them congenial and many are hurt if they come in contact with them.

Yet these multimillions of workers are accepted as essential to the economic welfare of a good proportion of Vermont agriculture, directly responsible for the size of our often million-bushel apple crop and for the success of those who raise some of our legumes—especially trefoil—for seed.

These workers, of course, are the honey bees.

That there are so many of them—more than half a billion, perhaps almost a billion at the peak of the nectar flow season—may come as something of a surprise to those whose acquaintance with bees is limited to seeing one occasionally in a village or city garden going from flower to flower but certainly not seeming like part of such an overwhelmingly large army.

Mention of such big numbers at work every pleasant summer day may, in fact, make some wonder how it's possible that bees are so seldom in people's way—how it's possible, in other words, to walk or drive down a country lane without having to fight one's way through swarms of bees, with probably very uncomfortable consequences.

The answer, surely, lies in the fact that working honeybees are just what their name implies: workers. They are steadily attending to their own business and are quite willing to let people attend to theirs. Honeybees have no desire to get mixed up in the affairs of other creatures—but no intention, either, of letting their own or their colony's business and safety be interfered with by any other person or creature, if they can help it. And no one who has been stung by one or several excited or angry bees can have much doubt the about efficacy of their equipment to "help it"—to discourage outside attempts to look too closely into bee business.

It would take a whole volume—*Vermont Life* Senior Editor Murray Hoyt has written one—to explain the details of just what "bee business" is. It is varied, as that of any social organization must be if housekeeping, child rearing, food gathering and food storing chores are to be done in ways that will enable the colony to survive and prosper.

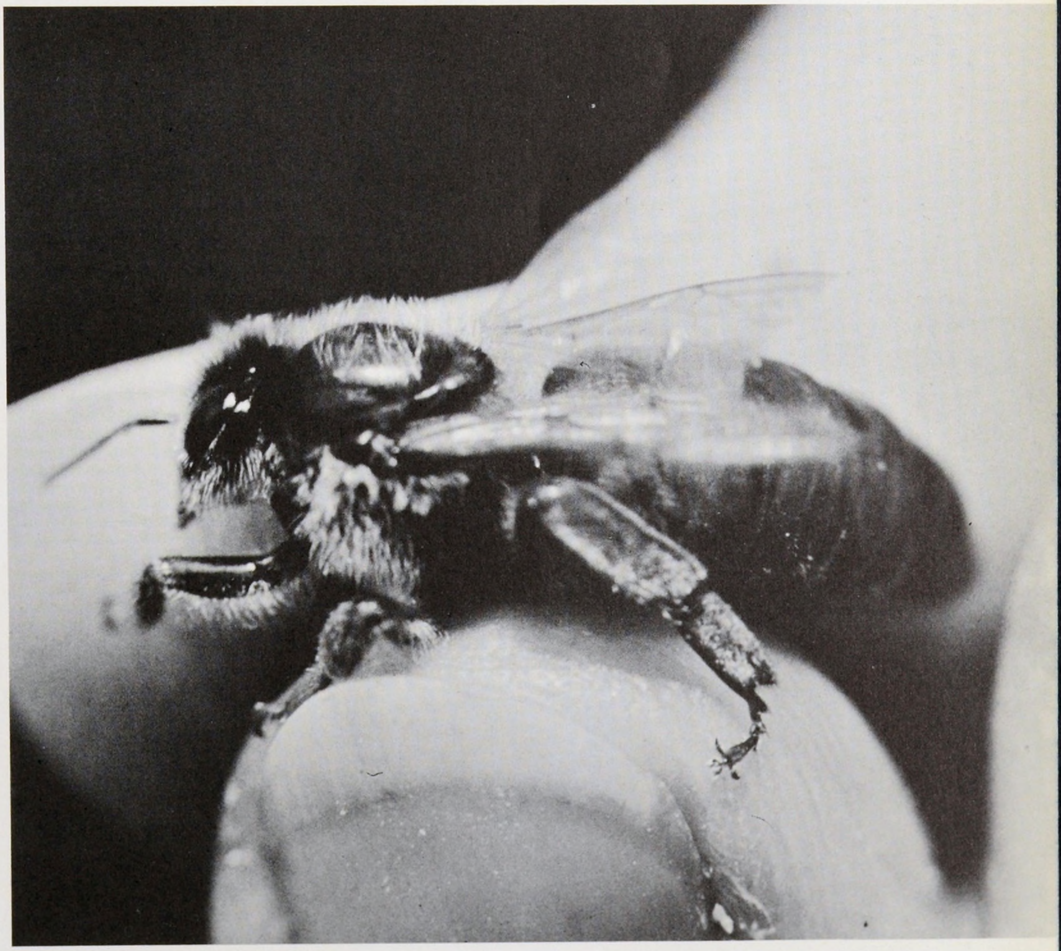
From the human standpoint, of course, bee business is usually considered to be making enough honey so that there will be enough for the bees and for us too—though as suggested at the beginning of this article, there are other phases of bee business that are of even greater economic importance to mankind than an ample supply of honey with which to tickle his palate and fill his need for sweets.

From the bees' standpoint the colony is all important. Man is an interloper, at best to be tolerated if he puts the colony's home—the hive—in some place close to an ample supply of nectar and pollen but most likely to be fiercely resented when he steals some of the hard-won product of the colony's work.

For honey bees do have a social organization with the various members carrying on different parts of the organization's work. They neither have nor seem to need a government, at least like any that humans have developed. Each member of the society or colony seems to know instinctively what it is her time or turn to do—and proceeds to do it.

There are guards at the hive entrance, ready to check up on all who would enter and to repel all but members of that particular colony. There are fanners—we'd probably call them air conditioners!—some forcing fresh air into the hive while others are busily creating an outdraft that removes stale or moist air from its interior.

There are waxmakers, usually the youngest. By some process of metabolism each can convert food into a waxlike substance which after some chewing she can add to the comb under construction.



The small, businesslike worker bee devotes her whole life to finding and gathering nectar. Opposite: Mrs. Maxine Manchester of Cornwall, with young helpers, rents hives to orchards.

Somehow she needs neither a foreman (or forelady?) bossing the job, nor a sliderule and calipers to know how to put just the right amount in just the right place—and then she goes back to making more wax. She and her mates on the job may have to eat as much as 20 pounds of honey to make a pound of wax; but with the cell walls of the comb only 1/500th of an inch thick, a pound of wax can make a lot of comb.

Nursing may come next for the young bee, though somehow there always are nurses on the job when newly hatched larvae are to be fed, their cells kept clean and, as the larva starts to build a cocoon, capped as added protection during that marvelous period when bees, like so many other insects, develop inside a self-woven silken sheath from a larva or "worm" to a fully developed adult.

Always in favorable weather the majority of the colony's members are flying back and forth between the hive and the current source of nectar and pollen, filling up the food cells and going back for more—but not going back without telling the other workers in the hive about the source, its distance and its direction.

How they communicate those facts is a story in itself. The kind of flower presents no problem, for each kind has a distinctive odor and bees are known to have very sensitive organs of smelling in their antennae. But scientists were long puzzled about how bees could tell their fellow workers how far away and in what direction they could expect to find the nectar source the reporting bee had found.

The way in which those facts are communicated is now known, following years of study and research. But how a bee knows how to use that method, or how others can interpret it and, literally, follow directions, is something perhaps only a bee psychologist can understand.

What happens is that the reporting bee, after delivering her load of nectar and pollen, performs a sort of dance on the comb—a dance that may be in circles or half-circles. The circles mean "close by; you'll have no trouble finding it." But the half circles, first one way and then the other so that a full circle with a diameter is really described, tell by the speed of the dance "how far": the slower, the farther off; and by the angle of the diameter with the vertical, what direction.

Maybe it sounds impossible for bees to know exact angles, especially angles related to the position of the sun at the time even if the sky is overcast; but that's what the dancers manage to do and their observers to understand!

Meanwhile, for all its lack of bosses, committees, legislators or kings, the hive continues its work, a most important part of which is carried on by the largest bee in the colony. Because of her size, she has been dubbed a "queen;" and because she's waited on, antennae, mandibles and all six legs of her, it may be she deserves the title. Her sole job though, as the only fertile female among the thousands in the hive, is to lay the eggs that will maintain the population—for in a busy season the average worker may literally work herself to death within a few weeks.

How a queen can be developed from an ordinary egg and larva by feeding her a special "royal jelly"; how a queen may take away part of a colony to found a new one, leaving a successor to be developed by those left behind; how queens will fight to the death until but one is left—there can be but one active in a colony at any one time—and how each queen mates on a hymeneal flight but once early in her lifetime . . . these facets of bee life and business, as well as how the drones (the only males, a few of which may hang around in the hive during the summer) have no job, no chores, no function save, if needed, to mate with a new queen—these could fill pages and pages to give fascinating insight into the structure of a social yet seemingly automatic society that, almost unchanged after millions of years, carries on the bees' business.

But what the honeybees produce in excess of their own use—mostly honey and some beeswax—that their human owners can take away from them and sell is, despite its considerable value, only a fraction of the bees' contribution to Vermont's agricultural economy.

The federal Crop Reporting Service for a number of years now has estimated that there are about 11,000 hives of bees kept in the state—give or take a few hundred, either way, from year to year. Production of honey varies much more widely than the number of hives because of the greatly varied weather conditions that prevail in different seasons and years. Too dry a time—and Vermont's 1963–65 drought was such a time—means low production because of fewer plants and less nectar;

The queen, larger than the others, is always surrounded by her solicitous court, which feeds her royal jelly and carries away and cares for each newly-laid egg.

too wet a period cuts into the bees' available working hours, for they are pretty well hive-bound in the rain. Once in a while a really favorable year for both bees and plants comes along and production may climb toward 650,000 or 700,000 pounds of honey as a statewide total.

Most years, though, the honey crop runs between 400,000 and 600,000 pounds, adding perhaps $150,000 to $200,000 to the value of the year's Vermont farm output. At best, that's only a fraction of one per cent of the state's annual farm production—but it's far from the major contribution the bees make to the total.

Way ahead of honey in value are Vermont's apples, in an average year close to a million bushels of them; and without honeybees the apple crop wouldn't be worth devoting all that land to orchards. How that can be may be hard to understand for those who remember that in earlier times nearly every farmstead had its few or several apple trees which often bore heavily.

To know how and why, it's necessary to remember that apple blossoms depend upon visiting insects for pollination. As the insect visits the blossom to get nectar, some pollen is brushed off and sticks to its body, wings or legs. When the insect visits another blossom, one of the pollen grains it carries may come into contact with and stay on the pistil, fertilizing it.

If that sounds hit or miss, it is—like so many of Mother Nature's other arrangements for plant cross-fertilization. And of course bees aren't the only insects that can, and do, pollinate apples. In the old days other insects, plus what bees there were, could help produce a crop on the farm orchard, a few trees here a few there. With modern farm specialization, though, the story—and the need—are different. Acre upon acre of apple orchard, with literally millions of blossoms, require correspondingly more millions of insect visits if the necessary but chancy cross-pollination is to occur. And there just aren't enough of the right kinds of "native" insects to do the job.

Apples are prolific in their blossoming. If as few as one in five blossoms gets fertilized, a good "set" of the crop is assured. But tests have shown that dependence upon the native insects can mean as little as a tenth of what should be a normal set. Hence most orchardists today depend upon the honeybee.

Some few have near neighbors who are beekeepers but most make sure by renting hives, having the beekeeper place them throughout the orchard, about one for every acre. Rental fees may run from $5 to as much as $10 per hive for the blossoming season—and the beekeeper gets the honey, too, as well as the rental, though he is responsible for moving the hives in and out and for their care, too.

That the system is mutually profitable to orchardist and beekeeper is obvious. The assurance of a good set of apples is worth many times the rental cost to the orchardist while the beekeeper expects to more than cover his moving costs and gets his bees off to a good start with colonies in strong shape for the summer months ahead.

Some, too, find those summer months taken up by a similarly symbiotic arrangement. A number of producers of legume seed, especially trefoil seed, have found that up to four hives of bees per acre can spell the difference between good to excellent and just poor yields. They and the beekeepers enter into rental agreements that both find profitable.

Apples and legume seeds—those probably measure the major contributions of Vermont's honeybees to the state's agricultural economy, when counted in dollars. Of course bees are busy with many other crop and garden plants, even a number of tree varieties; but their contribution there is largely through the honey they are able to produce rather than in economic advancement of the particular crop or plant, since in few cases is fertilization the matter of prime importance to the grower that it has become with apples and trefoil seed.

A farmer growing hay, for example, may know when best to cut a field of legume or legume mixture by the stage of blossom but cares not at all whether seed is formed. And the home gardener's chief interest is in the blossom itself; few, if any, have a commercial interest in flower seed production.

Nevertheless bees find plenty to do, most years; and while their own products, honey and beeswax, do add to the state's farm production total, their most valuable contribution is in the pollination service they provide for producers of crops of major importance—crops that would amount to little if the bees weren't on the job attending to business.

More important to humans than the honey this bee will make is her inadvertent pollination of the apple blossoms. Without this help little or no fruit would develop.

The DANCE of the MAYFLIES

By GEORGE BENEDICT GORDON

Illustrations by ROBERT CANDY

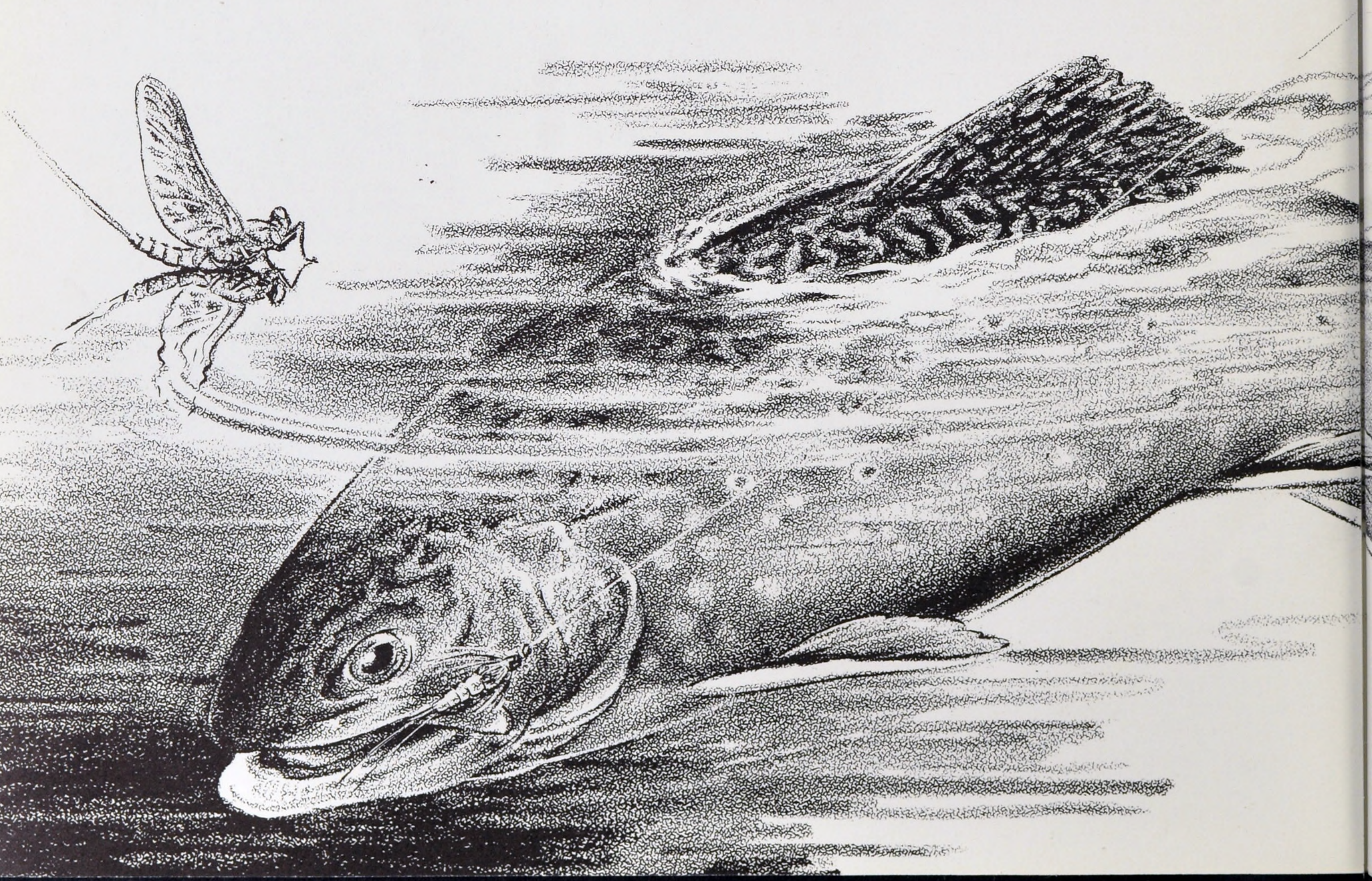
FEW MEN become more conscious of the wonders of Nature than the fisherman who wades the stream year after year as spring ends and summer is coming in. The river itself is beautiful beyond description. All life passes in review as the angler watches from the streamside. Under water, the trout move in a shining world of bright sand and dark shadows. Birds in the clear air above the stream sing at early morning and after sundown. The farmer, with his roaring tractor, muffled by trees along the water's edge, becomes a natural part of the quiet countryside. These and other things, some of them seldom observed by other men, are both seen and heard by the angler wading quietly along the river. But nothing that he sees is as wonderful and strange as the dance of the mayflies.

This year's dance began with the dropping of the eggs into the stream a year ago. For a full year (or more in some species) the nymphs that hatched from those eggs moved over the stream bottom. Some were free swimmers; some were flattened, adapted for hiding under stones; some burrowed like moles in silt and sand, along the stream bottom. All, when the time for this year's "hatch" arrived, had developed wings under the hard outer casing of their nymphal "shuck." At a precise minute and hour fixed by temperatures of air and water, varying with sunlight and the season, the nymphs emerged from their hiding places, rose to the surface, spread wings, and leaped into the air to begin the dance.

This dance of the mayflies, or Ephemeridae, may last only a few minutes or an hour at each place on the stream where it occurs. But while it lasts it is the wellspring of the fly fisherman's sport, and of the art of tying the artificial fly.

The fisherman stands, rod under arm, watching the river. The water glides without a break across the flat and drops, rippling and singing down the rapids and into the next pool below. Then, in front of the angler, a bright speck rises under the water. A nymph breaks the surface, splits open along its back, spreads wings, discarding the nymphal shuck with a wriggle, and floats up into the sunlight.

For a time these mayfly "duns" dance over the water; then they light among the alders along the bank. Now comes another change. The dull grey-brown, grey



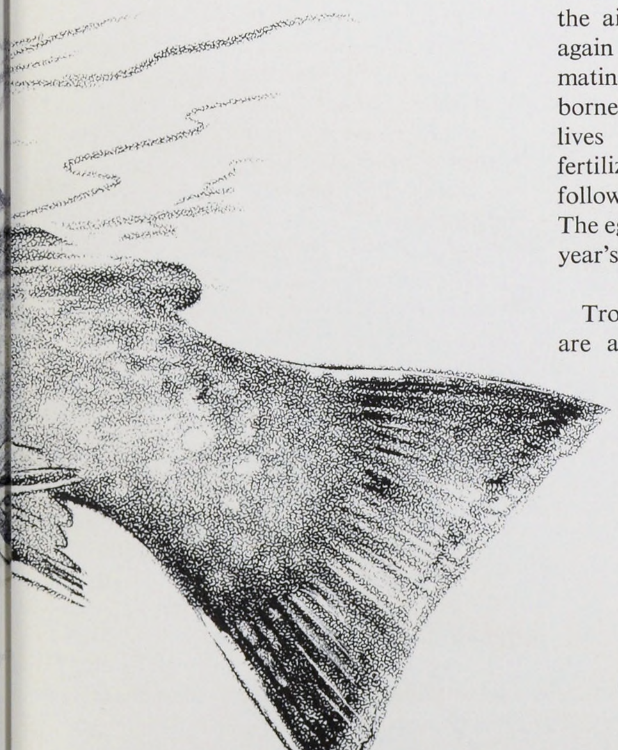
or creamy white dun splits open again along the back and a new insect floats off on the breeze. The wings are glassy now; the body is harder, slimmer, glossier than that of the clumsier dun. This is the final, and shortest stage of mayfly life.

Now these "spinners" begin a second dance, this one high above and out of reach of the feeding trout. They mate in the air. Minutes later, they float down again toward the stream. The male, after mating, falls dying into the water and is borne away down stream; the female lives only long enough to drop the fertilized eggs on the water. Then she follows the spent male, down the river. The eggs sink to the bottom to begin next year's dancing.

Trout in our nearby accessible streams are a bit harder to catch with every passing season. The fish are well "educated," and so must be the fisherman, only more so! There is no mystery to the skill of fly casting. Any able bodied person can, with a few hours of instruction plus practice, learn to cast a good fly. But *stream craft*—knowledge of the times when trout feed, where they rise, what they feed on, and how to select a fly to be fished on or under the surface on each stretch of river over a five months' season—this takes years of study. And after learning the stream, and how to select the lure, you must still get the fly you need. Most tackle shops carry flies designed to catch the fisherman rather than the fish! Thus it is that most serious trout fishermen end up tying their own flies for each particular stream.

An early printed account of tying artificial flies for taking trout and salmon appeared in *The Book of Saint Albans*, written by Dame Juliana Berners, Prioress of the Abbey at Sopwell, in the year 1485. For generations before that knowledge of the art had been passed down by word of mouth by Scottish ghillies and Spanish fishermen. Dame Juliana's patterns were re-published in Charles Cotton and Izaak Walton's *The Compleat Angler* in 1653.

In the United States, typical flies tied for eastern trout streams are illustrated in the book, *Favorite Flies*, authored by Mary Orvis Marbury, daughter of the founder of the Orvis Company at Manchester in 1892. These were crude wet fly patterns, bright colored lures of feathers



and tinsel fished under the surface of the water. They took our brook trout in those days, before the automobile brought fishermen in hundreds and delivered them at the stream side. But soon after the book was published, brown trout from Scotland and the European continent were stocked in Vermont. The browns wanted nothing to do with the old wet fly patterns: they had learned from centuries of experience that things that glittered were not safe to swallow.

Theodore Gordon (no relation to the author) who lived in New York's Catskills and fished the Neversink River almost until the day of his death in 1915, tied his own floating dry flies to imitate the winged naturals of the local streams. Gordon established a tradition of fly tying which is still followed by the Darbees, the Dettes, and other professionals of the region.

In Vermont, the late Wes Milburn, who had his shop on the Battenkill below Arlington and fished when the shop was closed at evening, was a superb fly tier. The author John Atherton, who also lived along this stream, was one of a group of gifted amateur fly tiers who matched the hatches with a series of imitations of the natural mayfly. (*The Fly and the Fish*, John Atherton. MacMillan Co., 1951.)

The mayfly dun which you pick from the water and perch on the back of your hand is not the only model for the fly tier. The Tricoptera, or caddis flies, found along the stream bottom in the form of little worm-like creatures that build nests of sticks and tiny stones, are imitated by effective wet flies and artificial nymphs, fished below the surface of the water. (The artificial caddis fly in the winged adult form is not usually a taking dry fly on Vermont waters.)

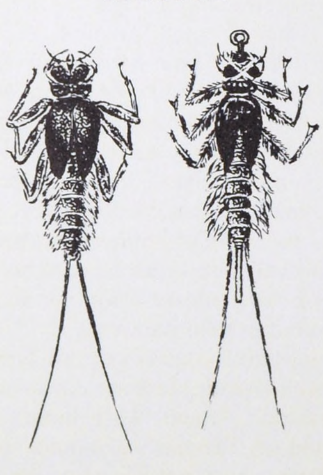
The stone flies (Plecoptera) live under stones in rapid water. Like the caddis flies, the nymphal or under-water stages of Plecoptera life are the forms taken by the trout for food. Lures tied to imitate the stone flies usually are wet fly or nymph patterns.

In recent years, fly tiers, both amateur and professional, are learning to create artificials of the tiny midges that are almost the only food trout will take in midsummer. These flies are smaller than gnats and must be imitated on number 20 or 22 hooks.

Most wet and dry patterns of artificial flies are made from the hackle feathers on a rooster's neck. Good necks for fly tying are harder to locate today than they were when prime hackles could be bought from China. Chinese farmers knew nothing about "hen pens"; their tree-roosting cocks produced bright, stiff hackle feathers. But American farmers kill off their young cockerels before they reach the 2- or 3-year age needed to grow good dry fly hackle. Nor are roosters living in chicken houses likely producers of the hard, glossy hackle needed for fly tying. But we live in hope that the fact that good rooster necks are worth from five to thirty dollars each will circulate among our local chicken raisers. Perhaps a few of our County agricultural agents will read this article and pass the word along!

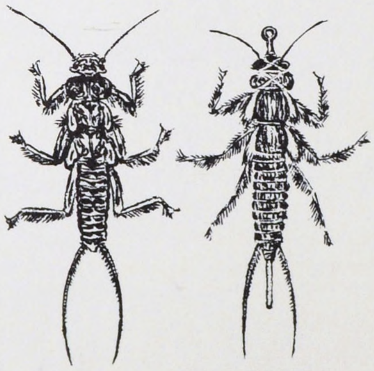
For five consecutive seasons, I have fished the Battenkill and other southern Vermont streams for several days of every week, always watching the swarms of mayflies over the water. From natural fly models and from stomach contents of trout in the creel, I've tied a series of artificials that take trout when other baits and lures fail. There is not, nor will there ever be, any lure more effective than a well cast fly, selected to fit a certain spot on the river where a certain mayfly is known to hatch during a certain week in the season. Like migrating birds, each kind of fly emerges at a known date and even at a known time of day. Knowing where a natural will occur, when it will occur, and being at that spot with the imitation in your fly box ready for the hatch are the essentials for "good luck" in fly fishing for trout. As in most forms of successful human endeavor, there is usually no "luck" about it!

MAYFLY



Heptagenia—fast water

STONEFLY



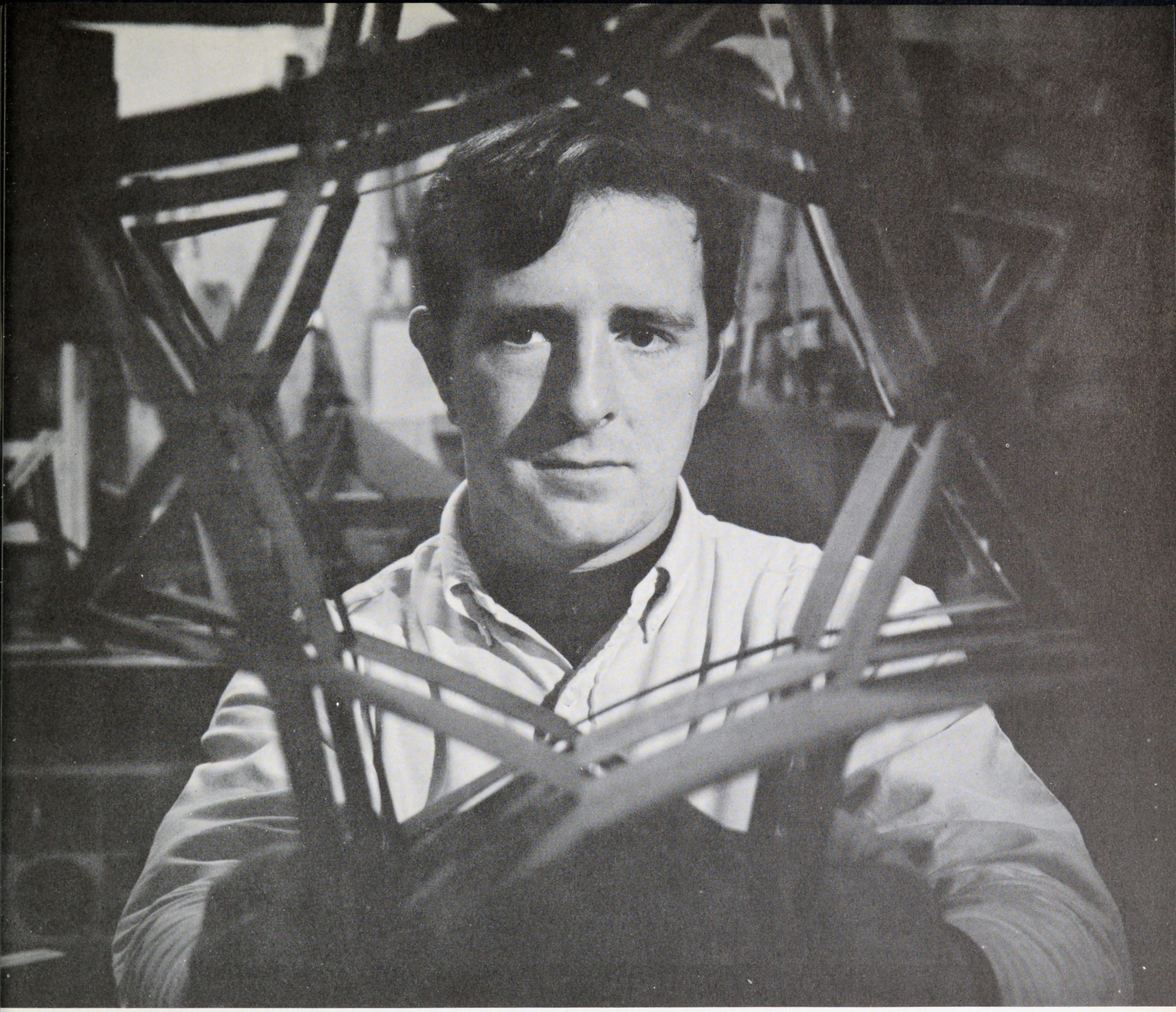
Perla—an early spring nymph

On a morning in the month of May last year I was on the Battenkill below Arlington. I was watching a smooth glide of water below the highway embankment where for five years, on this very date, a hatch of the Hendrickson had appeared. (I tie a dark grey-brown fly with a wing of bronze-colored mallard feather for this spot.) It was about one-thirty standard time. I knew what was coming, when it was coming, and I was ready for it.

As I watched the bright water, a single dark grey-brown dun emerged, quivered its drying wings, and flew away. More duns followed, shaking their new wings and fluttering across the surface of the water. Over my head a cedar waxwing swung over the water from a dead branch. When he flew back to his perch a mayfly fluttered in his beak. A big crow blackbird came stalking up the stream bank, gobbling up floating duns along the water's edge. Out in midstream a trout boiled under a floating fly. I began my casting.

Trout after trout took my lure. I had my five-pound limit of fish in a matter of minutes while the trout boiled around me and squadrons of darting swallows flew past overhead like feathered bullets. Then, as suddenly as it had begun, the hatch was over, and I went back to my car on the road with a heavy creel.

But it is not the weight of the creel that measures your success in fishing. The man who can wade a bright running river in early morning or in the dusk of evening is always truly lucky. The gliding otter and the stealthy mink regard him as a fellow angler. All men met along the stream are friends and brothers. The dancing mayflies are beautiful and yet strange. They are more than that, a certain sign of clean air and water and a place where both men and trout can live in complete health and happiness! Vermont is blessed by many rivers.



Ingenious self-locking mahogany strips of this geometric design frame craftsman-artist John Borden.

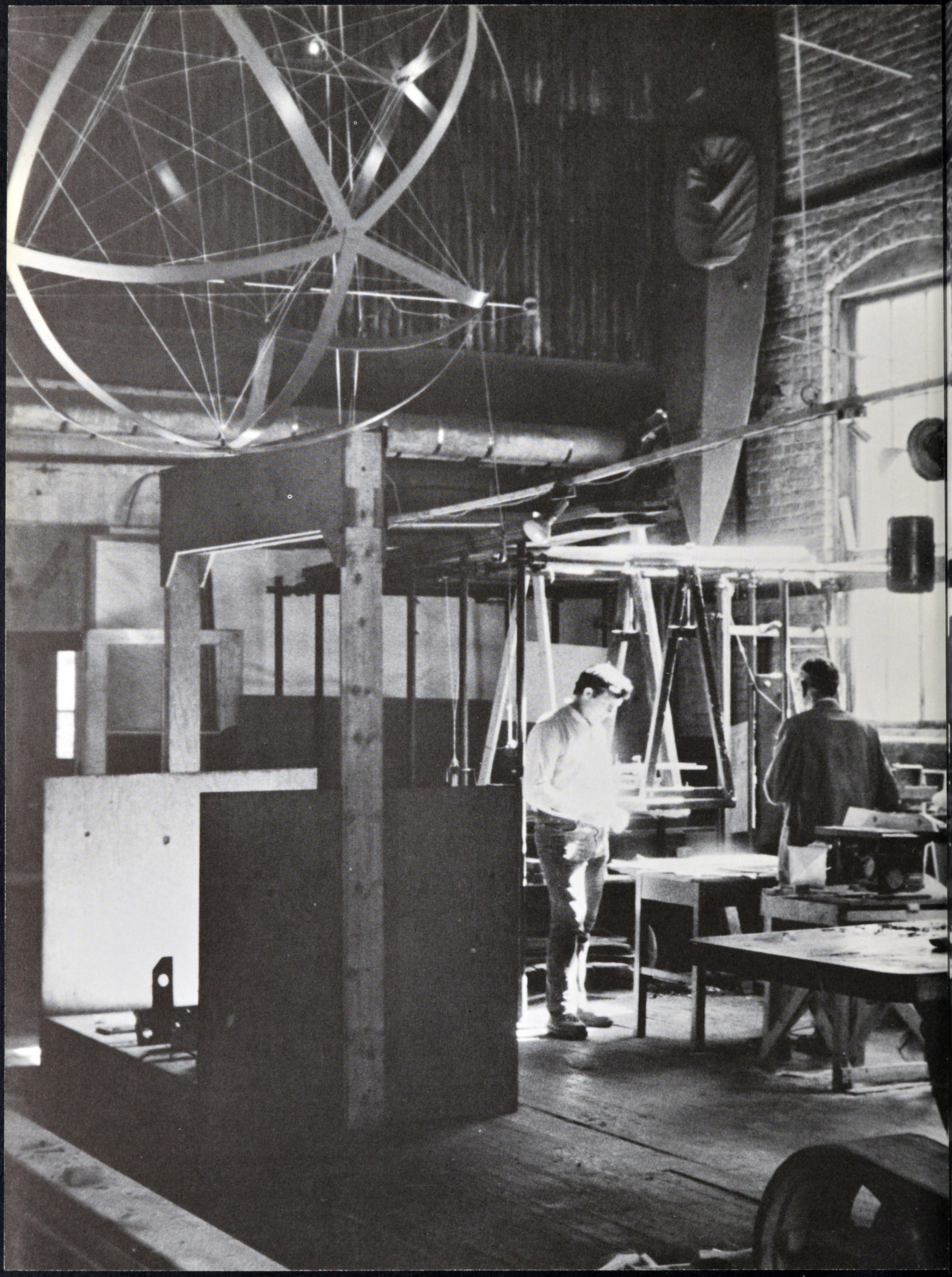
Geometry in action, OR HOW TO MAKE WOOD DO THINGS THAT SIMPLY CAN'T BE DONE;

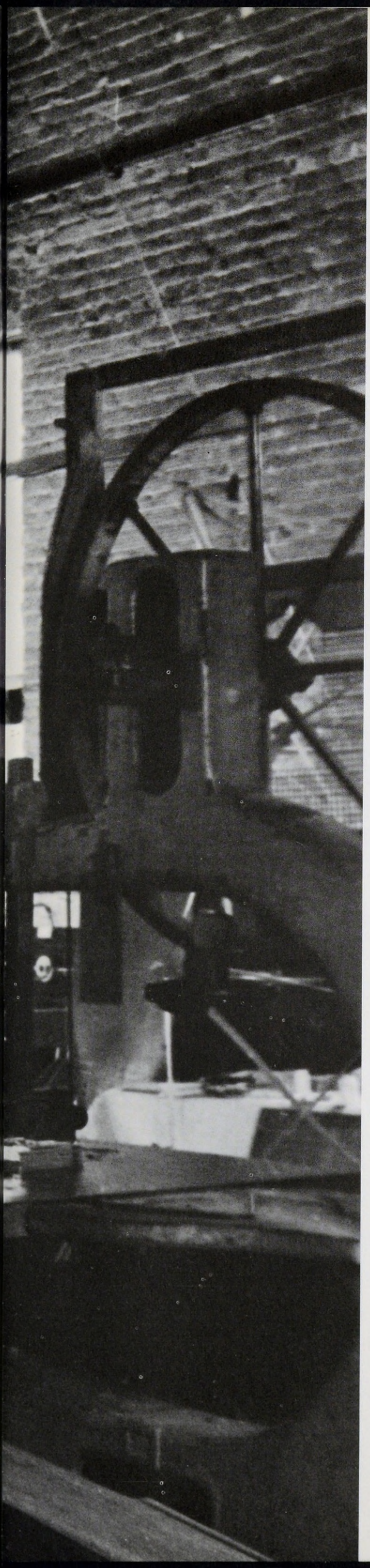
by ROCKWELL STEPHENS

Photographs by SHERMAN HOWE, JR.

SLICE A SHEET of quarter inch plywood into rectangular strips say two inches wide and about eight long. When you have a good supply contemplate the problem of attaching one piece to another *without benefit of fastenings* in such a way that the end result can serve as a model for a five room house, a factory, shed—or any solid building.

Project the solution of this problem to a full scale housing enterprise, say in an underdeveloped region with labor skills restricted to the use of a hammer or screwdriver—and nothing else. Plan the panels of a material or combination of materials best suited to the environment—





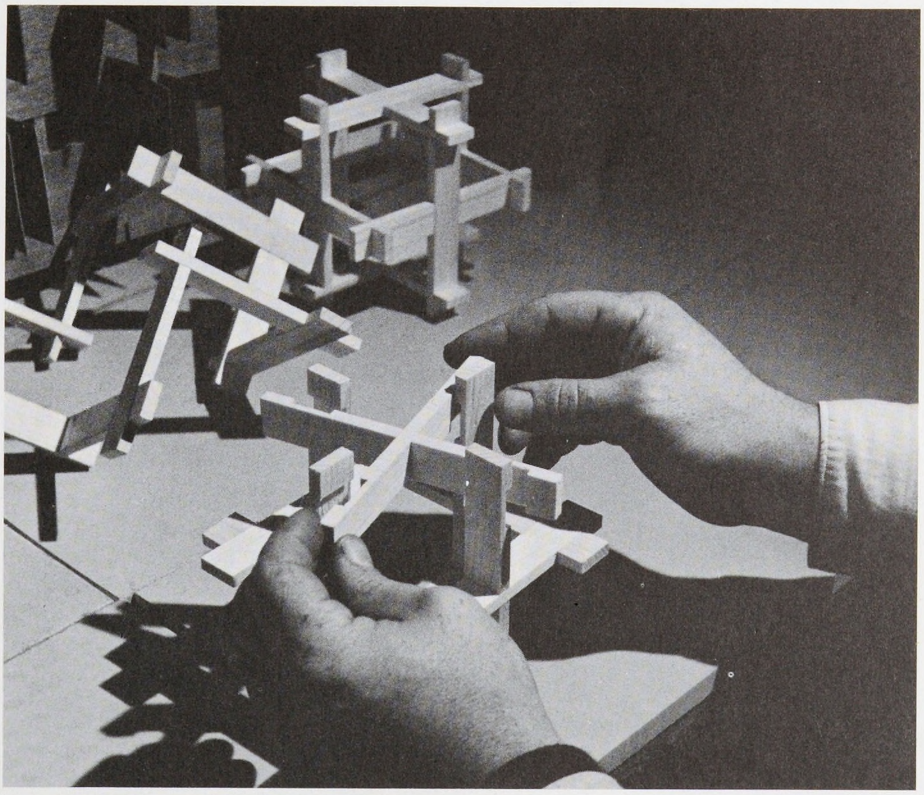
modern technology provides an almost infinite variety—and truck or parachute the bundled panels to the site.

The resulting structures may have far reaching effects in extending the economy and simplicity of prefabrication and all that it implies.

This concept is only one—though perhaps the most far reaching in its implications—of many taking form in one of a group of industrial buildings in Brattleboro which was once the home of the Esty organ. There in one lofty bay and three smaller work rooms equipped with a modest range of tools is the workshop of John Borden.

The French have a better word for it: "Atelier—a workshop, usually of an artist" according to the dictionary.

Artist, designer, craftsman, experimenter, all describe this young Vermonter (he'll soon turn thirty). The array of models, experimental and finished objects hanging from beams and stacked along shelves testify to his kinship with those inventors and innovators whose fertile imagination and skills played such a part in shaping the texture of American industrial achievement.



A multitude of forms and structures can be made from these notched modules. Many of Borden's design projects take form in the huge workroom, left.

After graduating from Marlboro College in 1962 he set up a small shop with the idea of designing furniture, but outgrew his quarters as well as the limitations of his chosen field and moved into the larger space a year later.

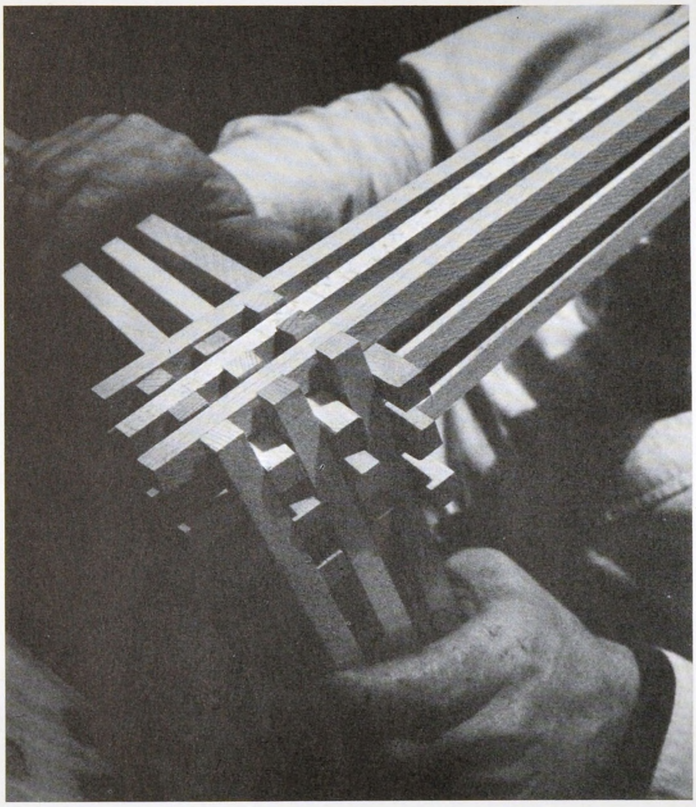
Typical of the diversity of some of these earlier projects under way one day last Fall was a graceful and beautifully finished black walnut ladder built for a private library, and the bulky cage and platform of an industrial elevator for a local factory.

But the score of models and prototypes hanging everywhere and ranged on dozens of shelves reflect his major interest in what he describes as basic forms and structures and their qualities of symmetry and strength.

As an example he points to what appears to be a shield perhaps a yard in diameter that might have been carried by a warrior of the middle ages. Shield? Not at all; it is a dome of great strength and grace, designed to cap some yet unbuilt auditorium without benefit of pillar or cross beam. It is a system of triangles interlocked at the corners and arranged in a specific overlapping pattern which forces the structure into its dome shape as the corner fastenings are drawn tight. Though the material is only thin plywood, the dome gives not a fraction when he stands on it with all his stocky 170 pounds.

A set of flat Z shaped pieces becomes a graceful spiral staircase as he assembles them on a notched supporting pillar to become another series of triangles mounting upward without visible means of support.

The Indian tepee, he points out, is a natural use of triangles joined at their apex to make a strong yet pleasantly symmetrical structure.



A bundle of sticks may take many forms.

Multiple surfaces of the interlocking strips increase structural strengt

Borden has no favorites among the basic forms; each has its own merits and it is in their combinations that their relative advantages are expressed.

Since so many of his designs seem to be pure applied geometry, does he draw or plan on the basis of a given geometric form? "The form develops from the idea of the structure or unit, though one keeps in mind the properties of forms. Usually both structure and form develop experimentally, and the application may come last. Sometimes a design will develop from studying the problem of how to join two or more pieces of a single structure, without much thought of a specific form or even possible application."

As an example he picks up a model airplane whose wings resemble one of Alexander Graham Bell's early experiments with box kites. "These narrow strips of wood forming the wings in a pattern of small diamonds were first an assembly problem, but once put together the structure looked as though it might fly. So I attached a boom for rudder and elevator, fixed up a compressed gas capsule for jet power . . ." and he hand launched the ship to a fifty foot flight and a smooth belly landing.

"Not a very practical airplane wing," he said, "but the assembly technique is useful."

"That table construction started as a bundle of sticks," and he points to a table top mounted on a sort of double tripod formed of interlaced strips—light and decorative and steady.

"I split a stick part way along its length, did the same to another, spread the splits to pass one piece through the other to make an X. This suggested a third piece similarly split to make a tripod.

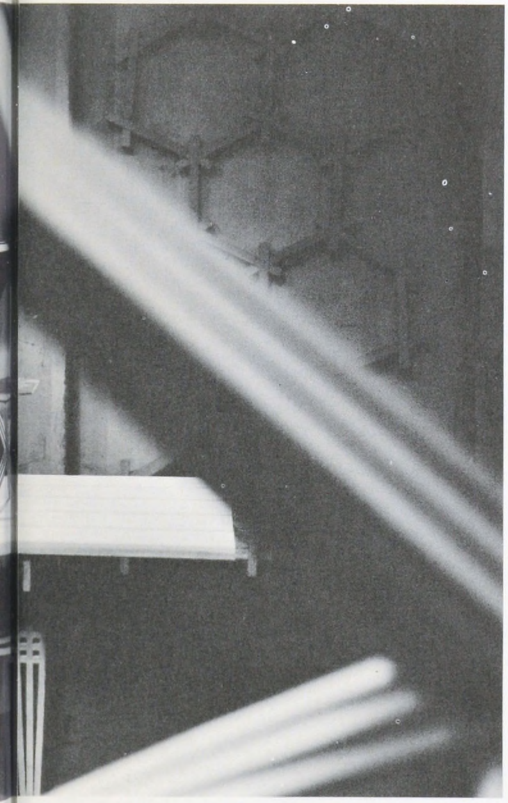
"The interlaced joint that resulted suggested a strong and symmetrical structure. The next step was a bundle of sticks, cut to the same length and all about half an inch square. After making an assembly jig I could set one bundle of nine sticks,—three wide and three high, in a vertical position, spread the middle section while holding one end solidly in its nine piece square, and pass another nine sticks in the same three by three pattern through the middle of the first set. Adding another nine pieces the same way and locking the ends gave a tripod with 18 times the glue surface of a single joint, and a light but rigid and pleasantly symmetrical structure. It makes a nice base for a three legged or trestle table, somewhat more decorative than a one piece leg."

The multiple evidences of geometry in action, the obvious application of basic principles of applied physics suggest a strong technical background. As is often the case, however, other studies played an equal if not more important role in his work.

"I did take a physics course in high

school and one course in design at Marlboro and, while math was not one of my strong points, I was always pretty good at geometry. I had two years of Army between school and college, driving a radio maintenance vehicle in Germany after a year's training as a radio repairman."

Working drawings of his elevator platform raised the question of training as a draftsman. "I've had no formal training as a draftsman but have studied on my own a text on mechanical drawing. It's easier to learn something when you have a specific reason."

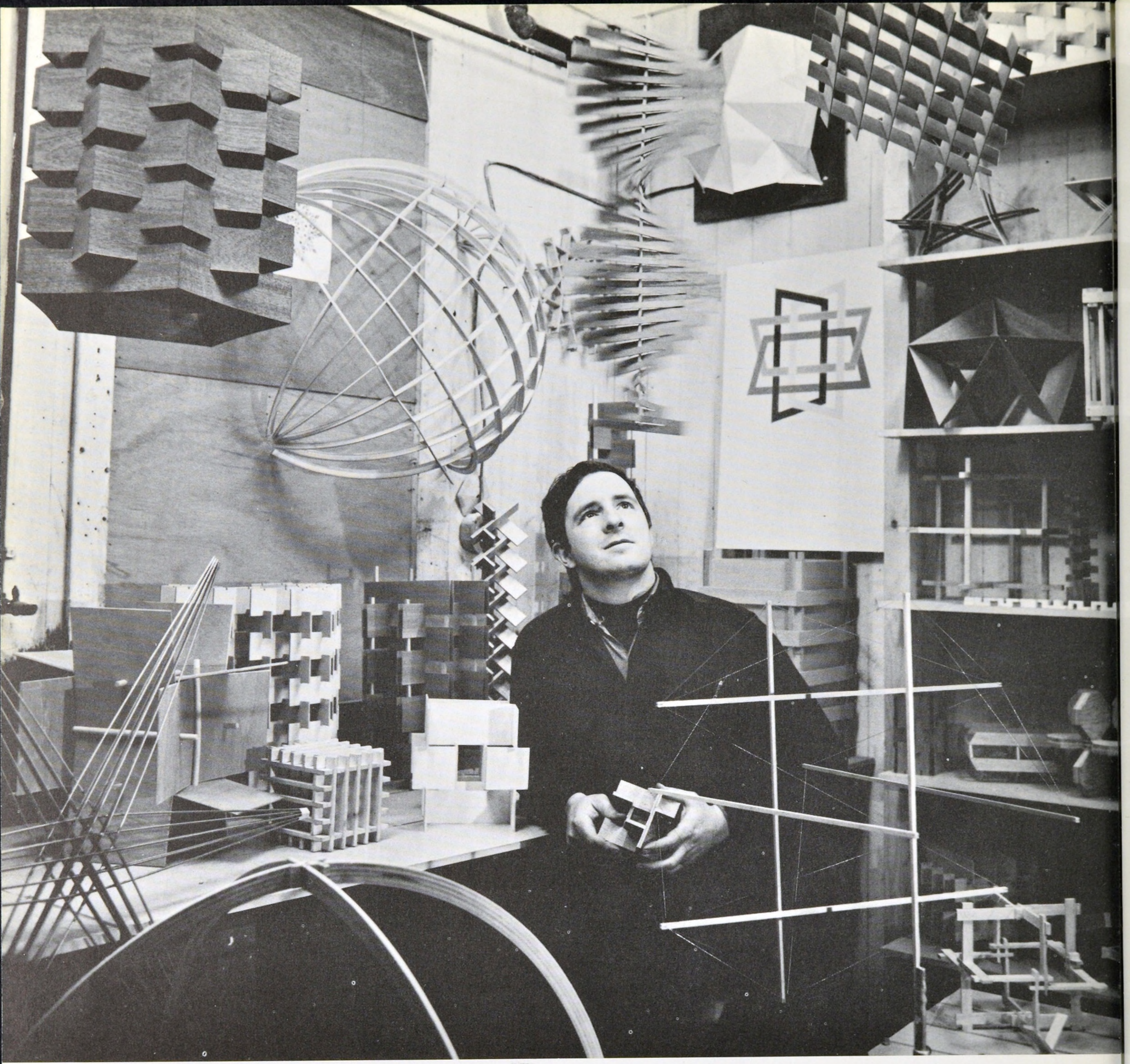


by making additional surfaces available for gluing.

In the spring of his senior year at Marlboro he built, with student help, the college's present astronomical observatory, using a war surplus aerial camera for the basic instrument. His senior year courses reflect the diversity of his interests: the observatory for one course credit, a motion picture film project another, a third in theatre set design, and the fourth in genetics and evolution.

During his first year out of college he experimented with various film projects, mostly non-dramatic. For one of these he wanted to film from an automobile

Lightness, astonishing strength and beauty are inherent in this experimental design.



A bewildering array of models displayed in his office demonstrate the young designer's deep interest in experimental work.

in Boston traffic in order to study the visual effect of moving through a city. To steady the camera "and keep the horizon from leaping all over the place" he put together an attachment using two surplus Air Force gyros rotating in opposite directions. The stabilizer worked like a charm and the picture, taken at reduced camera speed, is projected normally to compress and condense the effect. The result is a hair-raising dash through traffic at an apparent speed of over 100 miles an hour. "Makes you rear right back in your seat," he says.

Films still intrigue him, and he has made a short stop-motion picture showing the erection of a building, piece by piece, with his prefabricated modules. With characteristic originality, he built the house first, then filmed a few frames of each piece being withdrawn from the complete structure—and projects the finished film backward to show how it went up.

A roll of tissue paper perhaps ten feet wide bracketed on a wall raised the question, "what for?" "I use it for various things, but when I first got it the width suggested the possibility of making a hot air balloon. Some friends and I glued strips together on the floor, folding them back and forth until we had a balloon about three stories high, then got on the factory roof and held it upright while filling it with hot air from a pot of burning paint rags. The thing climbed seven or eight hundred feet and drifted over Brattleboro very satisfactorily."

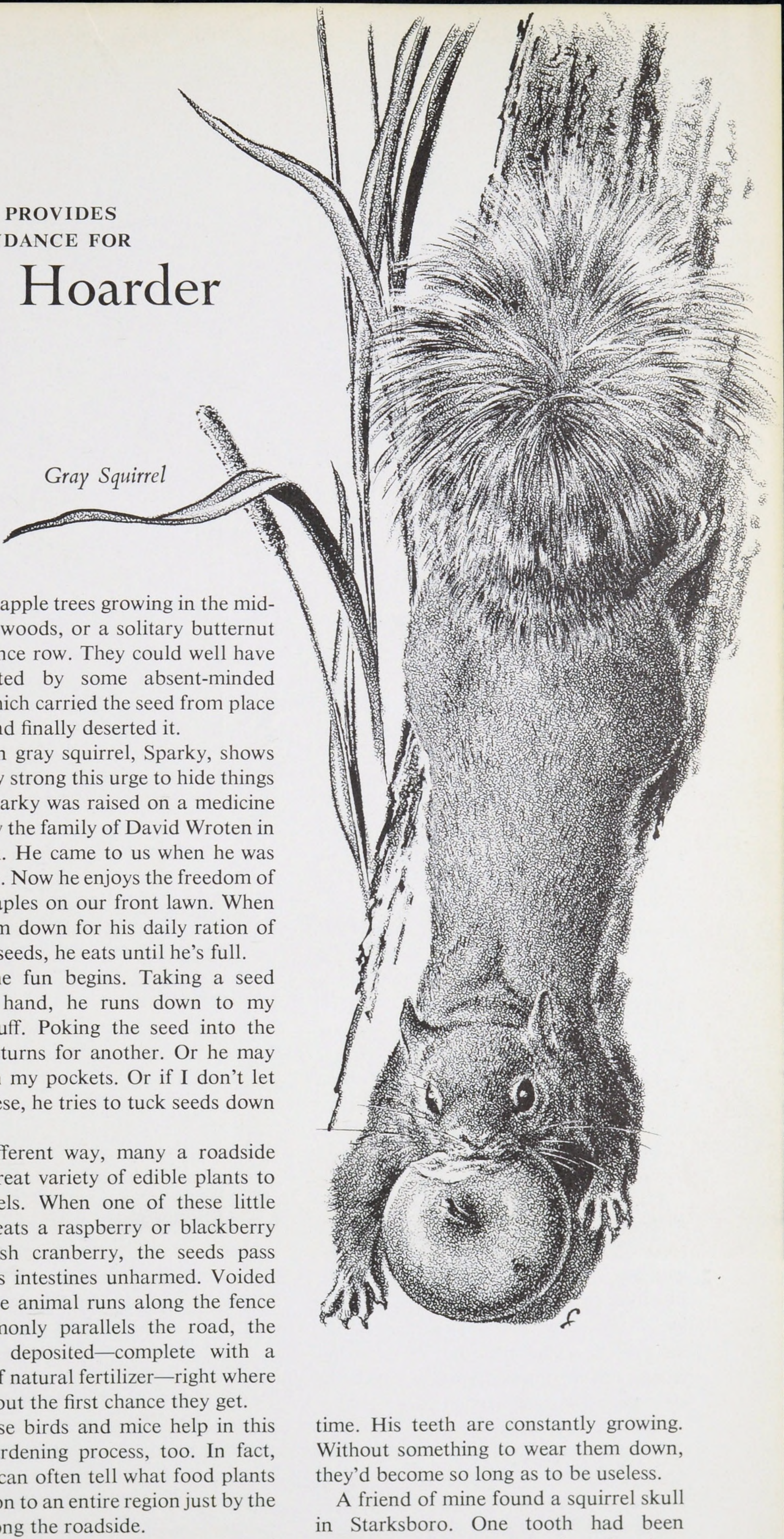
The flight of the balloon may or may not have caused some surprise in the town, but it is certain that further flights will be made in very practical realms of imagination applied to very real problems. ∽

EVERY TREE, BUSH OR SHRUB PROVIDES FRUIT, SEEDS OR NUTS IN ABUNDANCE FOR

the absent-minded Hoarder

by **RONALD ROOD**

Drawings by **ROBERT CANDY**



Gray Squirrel

IT'S NO WONDER the woods are full of them. They have almost everything in their favor.

"They" are Vermont's five members of the squirrel family—red squirrel, gray squirrel, flying squirrel, chipmunk—and, surprisingly, the pudgy woodchuck, which is actually an outsized ground squirrel. Black squirrels, so common in New York state and Ontario, are seldom seen in Vermont. Actually they are only a color phase of the gray, and are sometimes found in the same litter.

Look at a squirrel and you'll readily see how everything fits. Every boy who's ever tossed a dart or shot an arrow can guess how handy that feathery tail must be as a flight stabilizer. And anyone who has ever tried to lift a cat off the upholstery knows the value of sharp, curved claws for clinging.

But that isn't all. Since a squirrel has to be on guard forever against enemies, its bulging eyes are far out on the sides of its head. Thus it can see forward, backward, up, down and sideways. However, even with panoramic vision, it may miss some vital detail of its surroundings. So nature has given it the ability to hustle food to a storehouse where it can consume it later.

It's this latter habit that often gets the squirrel in trouble. Nobody cares much if it squirrels away a quart or two of wild cherry pits. However, if it starts in on the hickory nuts you've been waiting to harvest, that's another matter.

Actually, though, it's a good bet that the hickory tree is there in the first place because of the squirrel's great-great grandparents. Although the soft-furred rodents are inveterate hoarders, they also tend to be hopelessly forgetful. They may bury a seed or a nut or an apple and never return. This no doubt accounts for a number of those wild apple trees growing in the middle of the woods, or a solitary butternut along a fence row. They could well have been started by some absent-minded squirrel which carried the seed from place to place and finally deserted it.

Our own gray squirrel, Sparky, shows us just how strong this urge to hide things can be. Sparky was raised on a medicine dropper by the family of David Wroten in Burlington. He came to us when he was half grown. Now he enjoys the freedom of the big maples on our front lawn. When we call him down for his daily ration of sunflower seeds, he eats until he's full.

Then the fun begins. Taking a seed from my hand, he runs down to my trousers cuff. Poking the seed into the cuff, he returns for another. Or he may start in on my pockets. Or if I don't let him fill these, he tries to tuck seeds down my neck.

In a different way, many a roadside owes its great variety of edible plants to the squirrels. When one of these little creatures eats a raspberry or blackberry or highbush cranberry, the seeds pass through its intestines unharmed. Voided later as the animal runs along the fence that commonly parallels the road, the seeds are deposited—complete with a little pat of natural fertilizer—right where they'll sprout the first chance they get.

Of course birds and mice help in this natural gardening process, too. In fact, biologists can often tell what food plants are common to an entire region just by the growth along the roadside.

Sparky's buck teeth make short work of almost anything he chews. He's forever nibbling, whether it's a nut or a seed or the garden hose as it lies on the lawn. Like most rodents, his urge to chew comes from more than a need to while away his time. His teeth are constantly growing. Without something to wear them down, they'd become so long as to be useless.

A friend of mine found a squirrel skull in Starksboro. One tooth had been broken away. Its mate in the other jaw, with nothing to wear against, had grown up and back in a semicircle, like the tusk of a wild boar. The unlucky squirrel had probably died of starvation.

Usually, however, starvation is no

worry. Every tree and shrub has fruit or seeds of some kind. Most of them are considered fair game for a squirrel—with a little variety added in the form of an occasional insect or a few mushrooms.

Such a diet is fine for the gray squirrel. It usually suffices for our seldom-seen, nocturnal flying squirrel, too. Chipmunks and red squirrels, however, may stray farther from a vegetarian diet. A striped chipmunk poking in the leaves comes across all kinds of edibles—snails, insects, earthworms. But red squirrels, sometimes tiring of the habit of sitting on a stump and peeling the scales off innumerable pine cones for the seeds, may go searching on far less commendable errands.

The underhanded activities of these rust-colored rodents came to me full force last spring. We'd been happily watching the home-building of a pair of bluebirds in a nest box at the edge of our lawn. One day, however, both parents were flying about in front of the box, chirping as if something was wrong. So I went to the box and tapped on the side.

At once there was a loud scolding from within the nest. Then the head of a red squirrel poked out. Before I'd decided how to capture him, he made a flying leap to freedom. When I opened the box, three of the four blue eggs had been crushed and the contents eaten. Although the fourth was intact, the bluebirds never came back. Luckily, however, a bird disturbed before the eggs hatch will usually build another nest in a new spot. So what might have been a tragedy was probably just a misfortune.

When it comes to their own nests, the bushy-tailed little creatures are individualists. Although chipmunks are quite at home in trees, they have their nests underground. Lined with leaves and grass, they're built in a hidden chamber well below the surface. Thus the striped little fellows show their kinship to the ground squirrels of the west, and even the prairie dogs and woodchucks, which in reality are large squirrels.

To find the nest of a flying squirrel, rap on a decayed tree which has a few old woodpecker holes in a dead stub. If you're lucky, two or three gray-brown heads will poke out of a hole. The huge, liquid-dark eyes will tell you that you're in the presence of one of America's most appealing rodents—the soft-furred nocturnal creature with a flap of skin on either side from wrist to ankle. With these flaps, when it spreads its legs, it makes itself into a sailplane able to glide as much as 100 feet if it starts high enough.

A pair of gray squirrels may make a home in a hollow tree. Most often they line the hole with leaves, twigs and grass, but not always. Two years ago I was startled to see a great crumpled piece of newspaper go bounding up the side of an elm in Middlebury. It was spirited aloft by a gray squirrel, which poked the day's news into a hole. The noisy process took several minutes, during which the squirrel almost fell when it tried to cling to the newspaper and push it in at the same time.

Red squirrels, always odd-man-out, often take whatever nest is handy—even if the rightful owner is still in residence. If it happens to be the home of a thrush or tanager, the squirrel may consume the eggs. Then it casually roofs the home over with leaves right in the face of the outraged residents. And even though it's smaller than the gray squirrel, it will quickly rout its larger cousin as well. In fact, whenever they meet the peacable gray quits the scene in favor of its peppery red relative.

With the nest of a crow or hawk, however, the little chickaree, as it's often called, prudently waits until it's sure the home is empty. Or it may move into a hollow tree—a one-way trip even for the sharp-toothed little imp if the hole happens to be inhabited by an owl.

New families often get a whirlwind start in the squirrel set. The practice of watching a pair of courting squirrels is not recommended for the weak of heart. They carry on their romance at top speed. Running out to the end of a limb, leaping fearlessly into space and barely catching themselves by clutching the leaves of a neighboring tree, they undergo twenty lovers' leaps a minute.

The female looks as if she were trying desperately to get away. Once in Burlington I saw a lovelorn pair of grays race full into the stream of traffic. The female made it across the street between cars, but the male was not so lucky. I caught my breath as he dashed wildly beneath one wheel of a station wagon and checked himself just short of being crushed by the other one. Then, after a hasty glance to get his bearings, he continued the chase.

His lady, of course, had waited for him. Now she began anew her frantic efforts to escape.

In spite of a somewhat debonair attitude on the part of the male, the female makes a faultless parent. Even the little red chickaree, so careless about the rights of other families, will chatter and scold and even attack if an enemy comes too close. Such parental concern is necessary, for the young, born about five weeks after mating, are completely helpless.

We were given a pair of baby chipmunks last May. They were the survivors of four youngsters which had been orphaned by a cat. Naked and blind, they were little more than animated appetites. We fed them sweetened milk with a medicine dropper until they were old enough to go out in July, find their own seeds, nibble their own flower heads and poke holes in our lawn.

In the process of raising a family, the female may yield to the homemaker's universal impulse. She is seized with the urge to rearrange the furniture. This may involve merely re-lining the nest, or it may mean moving to an entirely new location. If it's the latter, the babies must be carried to the second home. I've been privileged to see the process in woodchucks, chipmunks, reds and grays. The nocturnal flying squirrel does her moving at night. The babies are gently grasped by the belly in such a way that they can curl up and cling to both sides of the mother's face. Hanging thus upside down, the little fur collars make the trek to their new home.

Baby squirrels have to learn to climb. Their little claws are sharp from birth, but a squirrel on its own for the first time seems scared to death. It plasters itself against the trunk, moving with such caution that it looks as if it would never make it. But the playfulness which is part of all squirrels soon asserts itself. Then the hesitant crawl develops into the bouncing exuberance which leaves you breathless as you watch.

Red Squirrel carrying young

It's not true that a squirrel never falls. Our little chipmunks got into a fight in the top of a maple tree not long ago. Chattering and scolding, they forgot themselves. One lost his footing and fell nearly forty feet to the lawn. Shaking himself, he rushed right back up for Round Two. And Sparky, our gray squirrel, has tumbled to earth several times.

Finally, as summer wears on, squirrel youngsters go their own ways. A nest of flying squirrels which had entertained us with squeakings and caterwaulings all one spring in our attic was silent by August. A red squirrel family in our spruce grove got along fine together until September, when a whopping family quarrel sent them all packing in different directions.

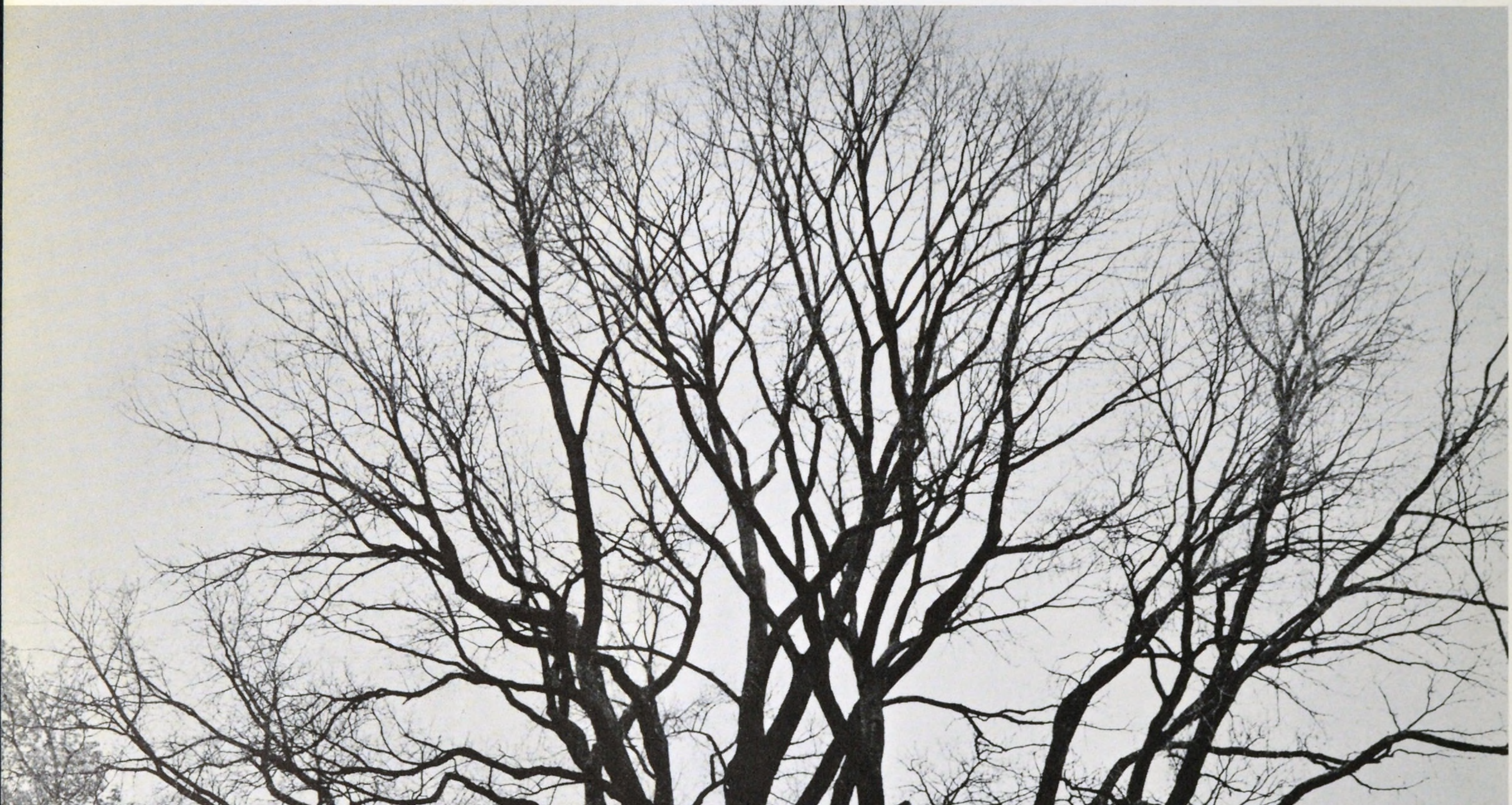
From then until winter, the chief business seems to be to tuck away as much food as possible. The woodchuck, of course, stores it as a layer of fat for the winter sleep. Chipmunks, also great sleepers, fill their cheek pouches time and again with seeds or grain, and build up underground storehouses. Then they may curl up in the middle of their treasure and fall asleep.

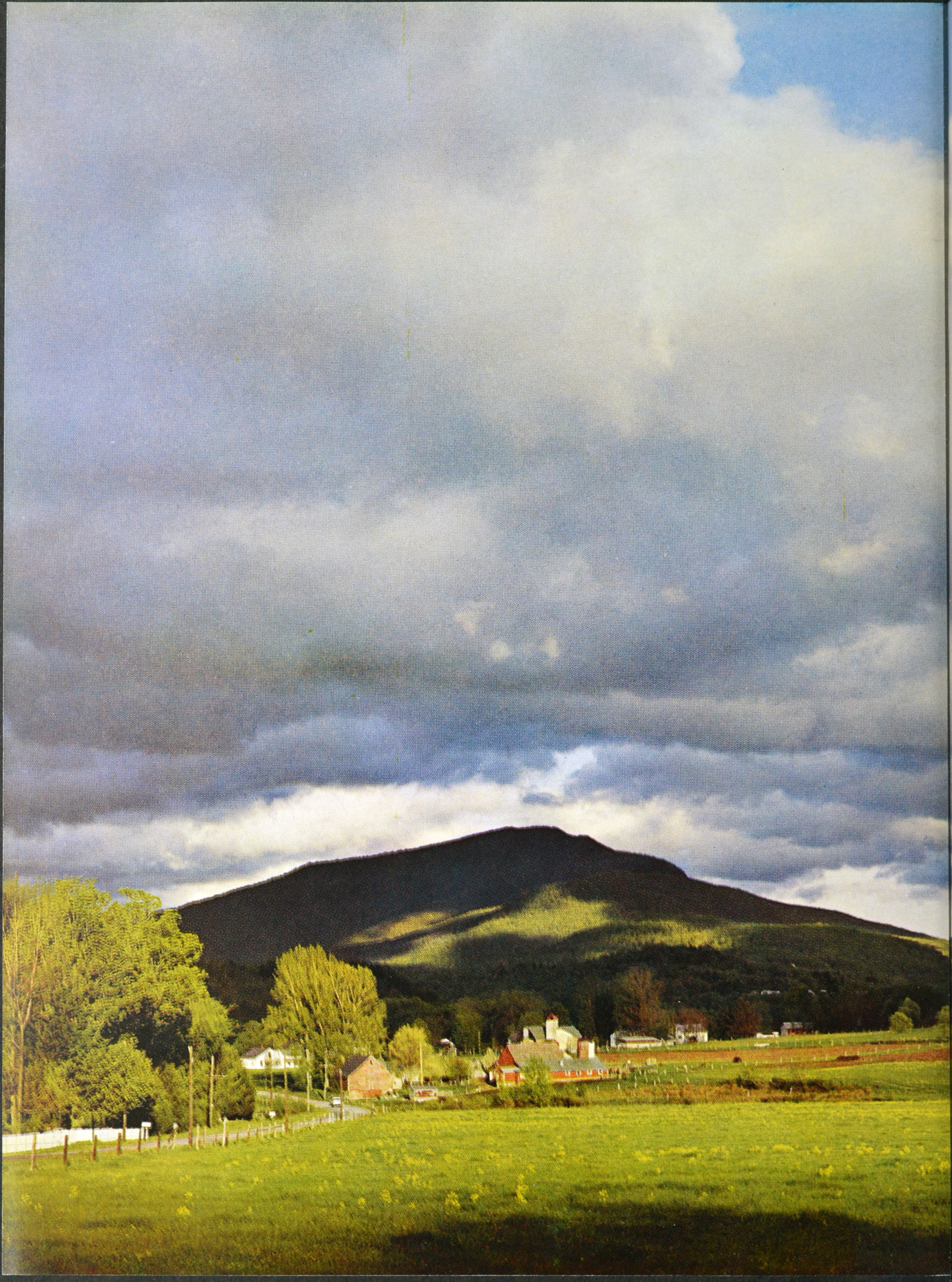
For the true tree squirrels, however, winter is just another season. The gray squirrel in its elm or hardwoods, the red in its hemlocks and coniferous forests, and the flying squirrel in its old stub in the forest merely fall back on the seeds and nuts they've been gathering on their acre of land all autumn. If a squirrel has been industrious—and another squirrel hasn't pilfered its provisions—it may actually grow fat in winter. Besides, when the pantry's empty, the nearest tree has more buds and twigs. And with about two-thirds of Vermont covered by forest, that's a lot of buds.

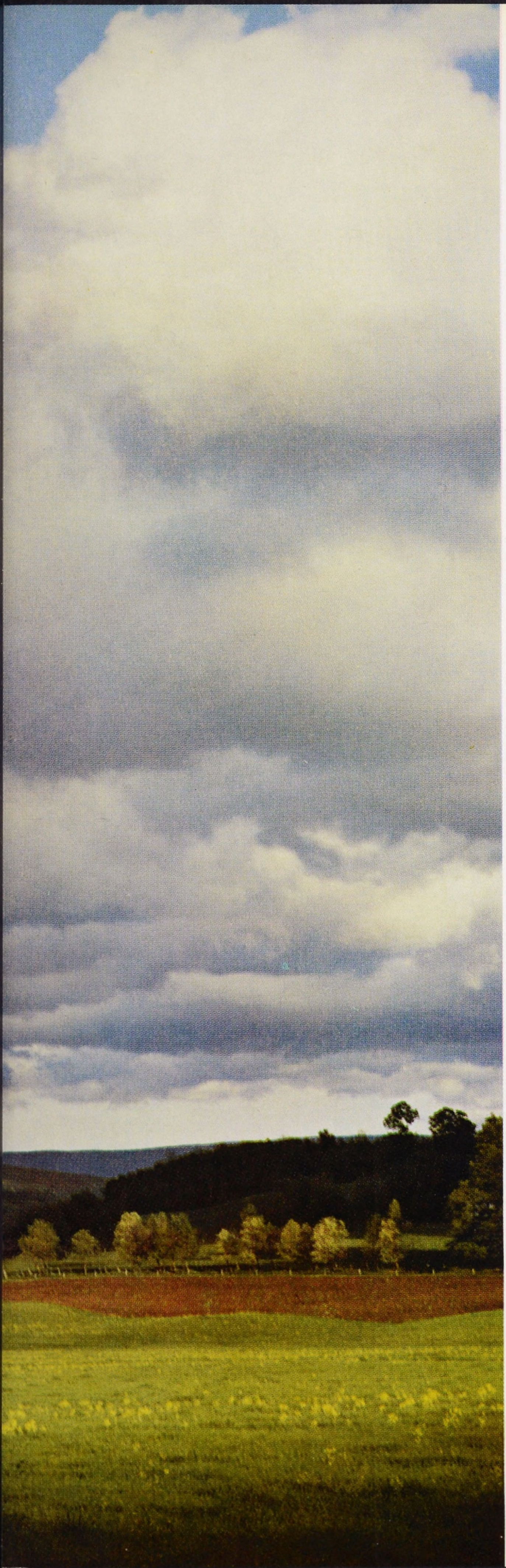
So it's no wonder the woods are full of them. They have almost everything in their favor.

Spring's a time of contrasts
in Vermont more than in many parts
of the country. From the thaws of March
by fitful progress to the full leaf of mid-May

RIGHT: Birches near Marlboro, by JOHN H. VONDELL.
BELOW: Scotch elm at Old Bennington, by F. B. GRUNZWEIG.

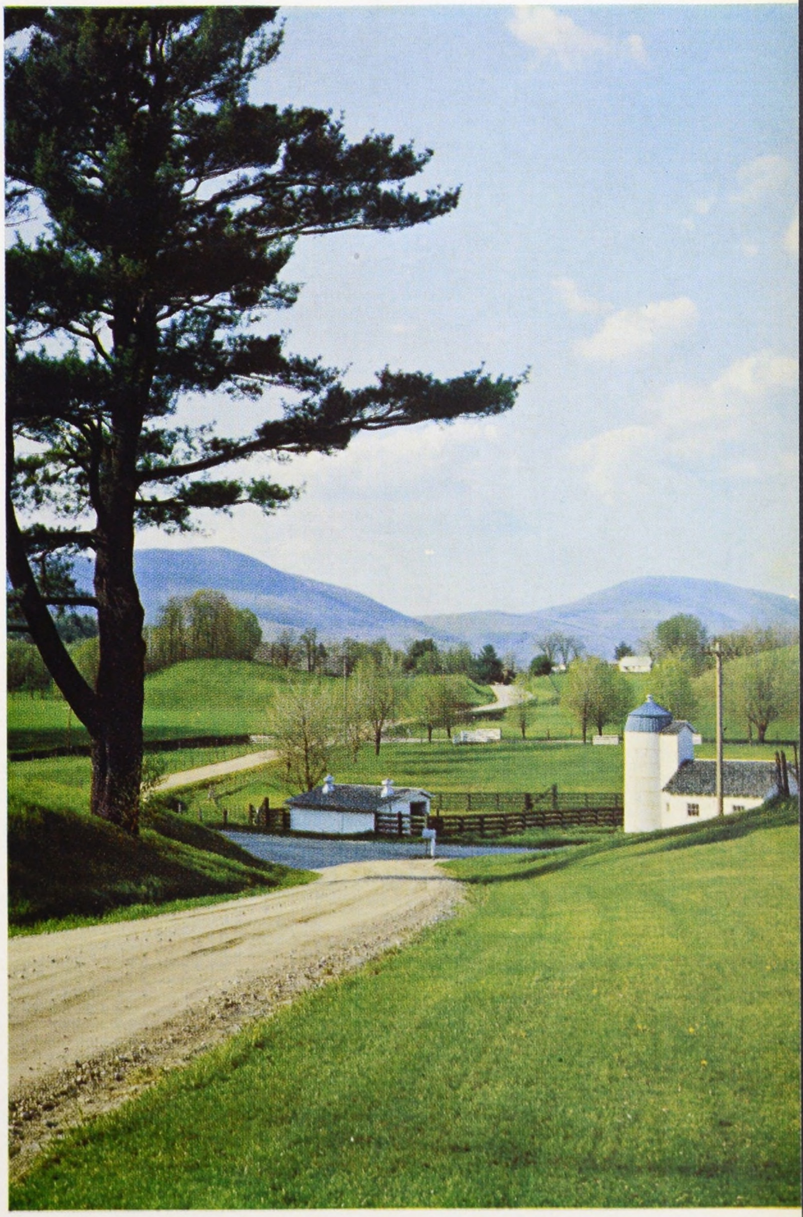






it brings days of lowering
clouds that dapple pale green
mountains, days when the soft
air contests the clean
outlines of unfurling trees,

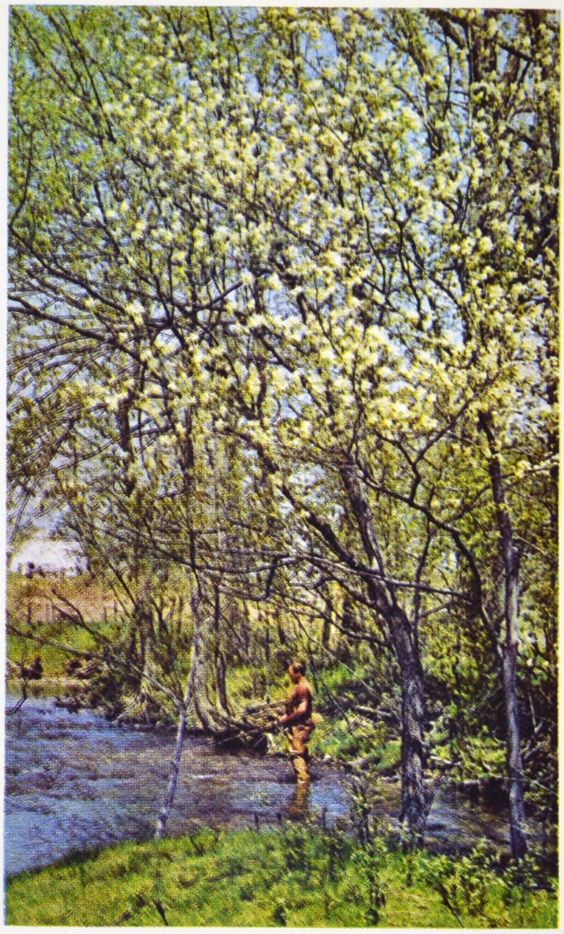
LEFT: East Rupert and Dorset Mountain, by ARTHUR GRIFFIN.
BELOW: South of Arlington, by H. STANLEY JOHNSON.



RIGHT: Fishing Bogue Brook near West Enosburg, by MACK DERICK.

FAR RIGHT: Caspian Lake at Greensboro, by F. B. GRUNZWEIG.

BELOW: Early morning on Waterbury Reservoir, by JOHN H. VONDELL



sharply etched roadways and farms.
It's a time of misty mornings
and of crystal clear afternoons,

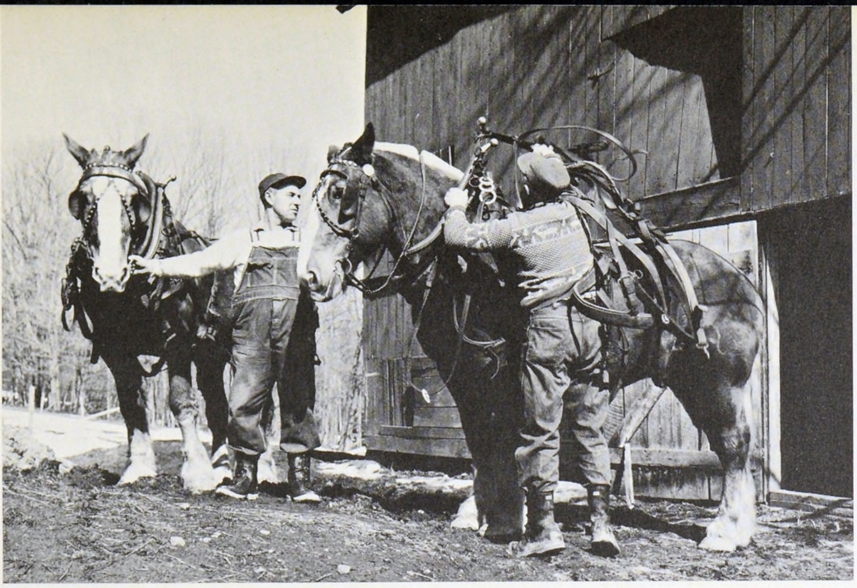
when the fresh and just-awakening woodlands beckon. Then come days when ivory blossoms of countless apple trees dot the distant green hills and perfume the air. ∞

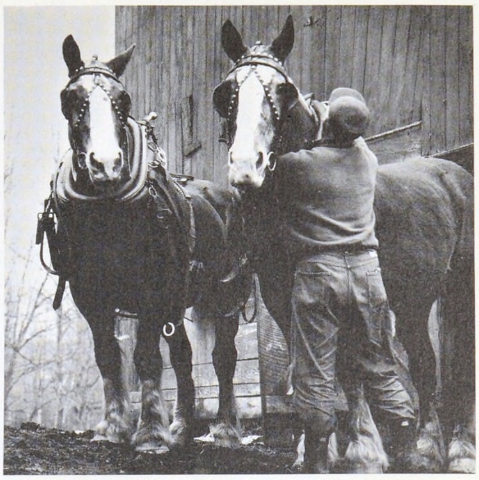
OPPOSITE: Apple blossoms at Pomfret, by WINSTON POTE.
BELOW: Near Peru after a storm, by JOHN HARRIS.

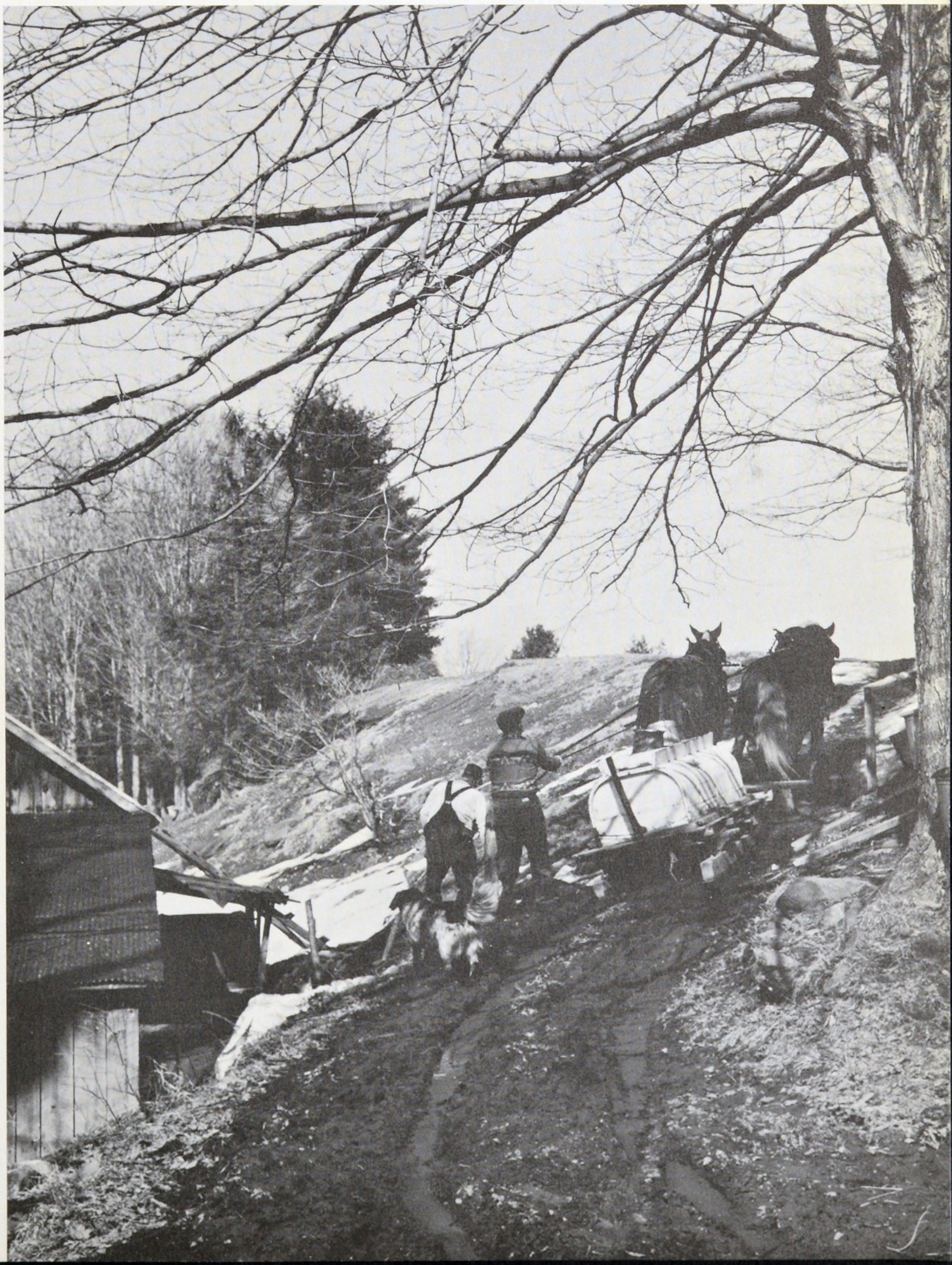
TWO BROTHERS IN GUILFORD
PREFER OLD-STYLE GATHERING FOR THE
FAMILY'S SUGARING BECAUSE

the horses know how

Black-and-white Photographs by **DAVID PLOWDEN**
Comments by **HARVEY** *and* **CLAYTON CUTTING**







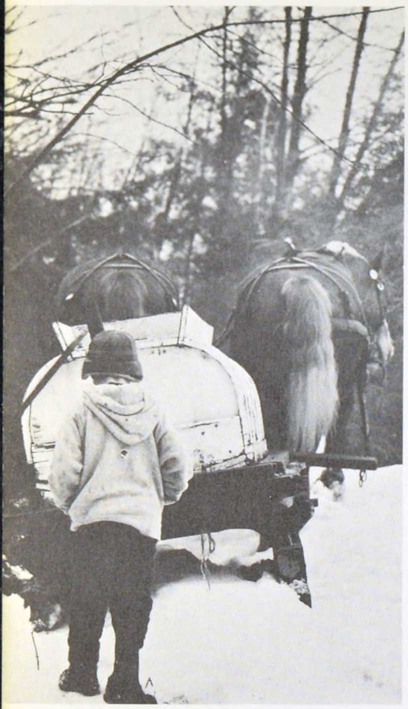
On good sap days we harness and hitch up and start gathering about nine, after morning chores; we milk thirty-five to forty head. The first picture is by the horse barn, Clayton working on King there at the right and me holding Dan.

They're a heavy team—Dan weighs eighteen-twenty-five, King seventeen-ten, and they stand seventeen hands high. That's a lot of horse. They're well matched in color, too, chestnut with cream manes and tails, and they work well together and like each other. Sure they have differences, same as humans. Dan's the comedian: he likes to socialize and chase around, and he gets to mooning; or he gets bored and starts lipping King's ear. King stands for such foolishness up to a point, then he nips him into line. The other one shows the horses better. They've got their ears pricked up, looking where they heard the camera click. King is more serious; he's older, and the boss when the chips are down. Dan is more nervous.

Horses like sugaring. It's good exercise but with plenty of chances to rest; much better for them to work every day now than stand in the barn. They draw fuel wood in early Fall, log all Winter, and sugar in Spring, along with some logging and fuel-gathering. Then all Summer they live the life of Riley out to pasture, while the wheel tractor takes over.

No, I don't know how many farmers use a team to sugar in Windham County, but I shouldn't think more than twenty do. If you like horses, you have horses, and if you have them you use them. Anyway, see the weight of the rig as we come up the hill to unload at the sugarhouse? Look at the ruts: it's a ton, easy. The wheel tractor never could make the pitch.

In Cabot, by Stephen Whitney



Another thing good horses do, they move ahead at voice command so you don't have to hop aboard each time to drive to the next stop. Up there's Ronnie, my youngest one, following the rig; Harvey's kids and my other three are in school. It wouldn't be a Cutting sugar operation without a kid along. You can see how the reins are hooked up while the team goes by itself. Speak to a tractor

VERMONT *at Expo 67*

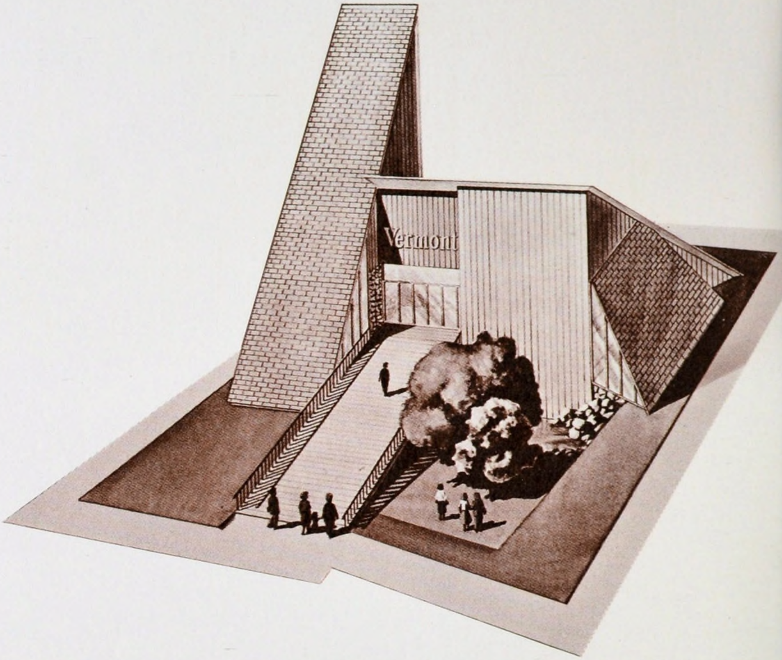
Expo Itself: To celebrate its first century of Confederation, our great neighbor, Canada, is presenting what is, without doubt, the greatest international exhibition ever assembled in North America, if not the world. More than seventy foreign countries, ten Canadian provinces, plus special industry and Theme pavilions bring the total of separate and varied pavilions to well over one hundred. Expo covers a thousand acres on the shore of Montreal and on two islands, mostly man-made, in the middle of the St. Lawrence River. The Expo theme, "Man and His World," is being celebrated further by a tremendous assortment of special events in the fields of the arts, sports, education and entertainment, and these include entire troupes which have never before left the European continent.

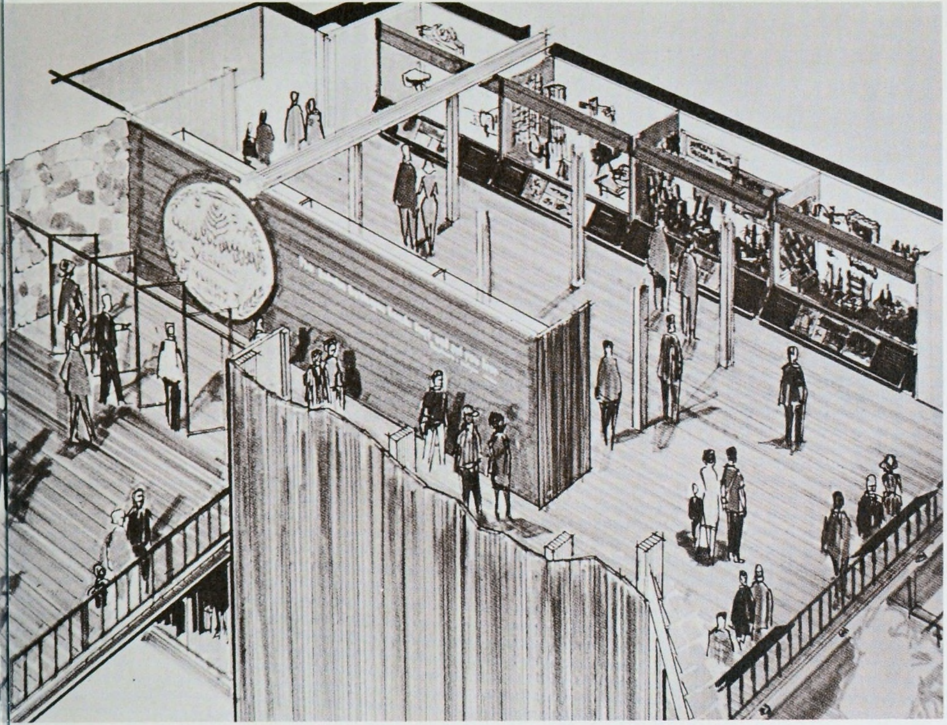
Expo 67 lasts 183 festive days, beginning April 28th, and Vermont, as one of Canada's small but close friends and neighbors, is proud to be one of only three states to have a pavilion here.

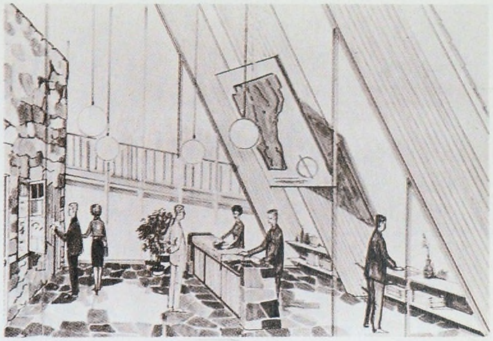
The Vermont Pavilion: Its soaring lines, rising to 70 feet, suggest Vermont's mountainous terrain. It was designed by Kissiloff and Wimmershoff of New York, and the architecture contrasts strongly with the low lines of the next-door Japanese Pavilion and the rounded forms of the Brewers of Canada on the other side.

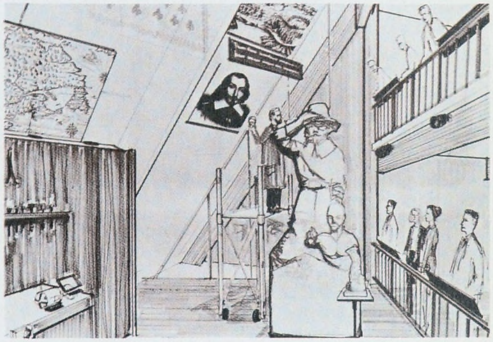
It stands right at the heart of one of Expo's most central and exciting international areas, on Ste. Helene's Island, with a beautiful expanse of park providing a natural setting behind. A short step away, at the Place des Nations, colorful national and international entertainments will be presented each day.

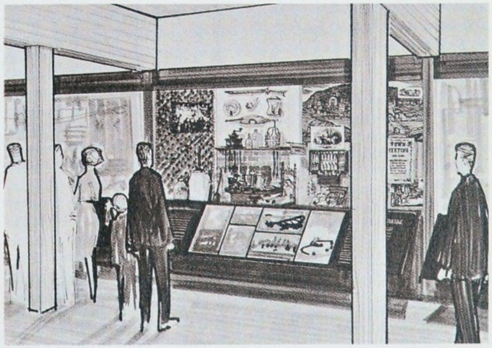
Laid slate walls, natural wood sides and shakes, and a dramatic sweep of glass form the Vermont building's exterior. A long ramp brings visitors above a pool and waterfall into the building's center on the upper level. Here stands a huge replica of the state's seal, with a quotation from Calvin Coolidge to set the theme. Beyond stands a series of engrossing special displays made from historical treasures, prints, artifacts, replicas and il-











Soaring Vermont Pavilion, opposite, stands near the western tip of Ile Ste. Helene. Upper floor cut-away, above, of the Pavilion shows entrance ramp, the overlooking balcony and the Vermont Heritage display center, pictured in detail at lower right. Vermont Information Center, right, is on first floor. At right center is Champlain statue work area.

luminated full-color pictures to depict the Vermont Heritage, industry, agriculture and other segments of Vermont life today.

From this upper level, where visitors find a visual biography of the state and her people, a balcony area overlooks another major Pavilion attraction:

Here is a major work-in-progress of the entire Expo—an heroic-sized statue of Vermont's discoverer (in 1609), Samuel de Champlain. This massive, twelve-foot figure is being carved from a thirty-five-ton block of Vermont's Barre granite by the noted Vermont-Estonian sculptor, Ferdinand L. Weber. Hangings above the artist at work show events in the life of the great French explorer, whose 400th birthday is being celebrated this year.

At the conclusion of Expo, the great finished statue will be erected on the Vermont-Quebec border overlooking the beautiful lake which bears Champlain's name.

From this upper exhibits area visitors go down to the far end of the main floor to watch sculptor Weber working at close range. Accompanying panel displays show how the great granite block was quarried in Vermont.

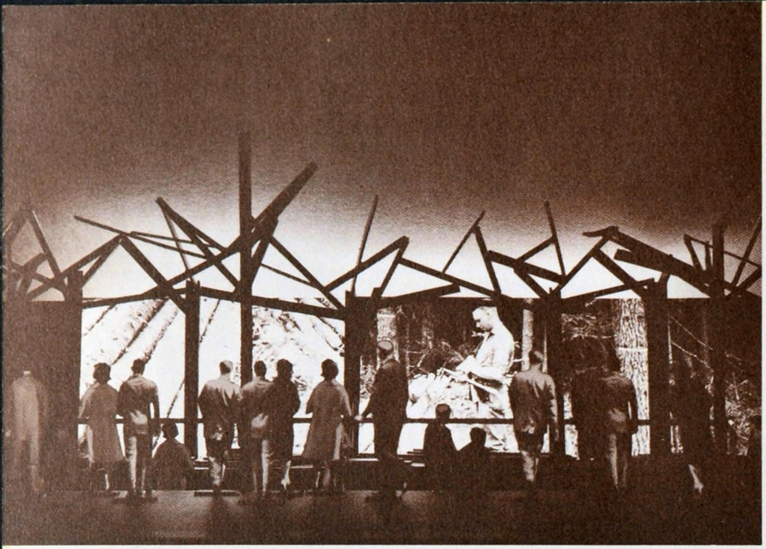
Doors opening along the back wall then admit visitors to the Pavilion Theater and the exciting "Beckoning Country" full color show. Here, with 35-foot panoramic screens, with special sounds and music, and even the aroma of apple blossoms in Spring, one experiences life in Vermont through the changing seasons.

Final stop in the Vermont Pavilion is the Tourist Information Office, where visitors may make reservations to see the real thing—an opportunity for a memorable second adventure during one vacation. Here specially trained attendants, backed up by a wide selection of informative brochures, a special Vermont map as well as Vermont regional maps keyed to events taking place, make it easier for the visitor to select the areas of the State and the places to stay to suit his own vacation plans. Best of all, here is a "hot line" reservation system which runs direct from the Vermont Pavilion to any point and any accommodation in Vermont. Here visitors get on-the-spot confirmation of their reservations.

Among Vermont's many attractions are its 130-odd covered bridges.

This is the home, too, of the famous Morgan horses.

There are almost 100 state and private camping areas here, and almost anywhere you look are mountain and lake vistas.



The multi-screen color show of Vermont through the seasons (above) is run continuously every day. Below, the work-in-progress Champlain statue is shown in finished form.

How to Get to Expo: The Green Mountain State with all its scenic attractions lies a scant hour of driving south of Expo, and there are better than a dozen ports of entry on the Vermont-Quebec border. The Official Vermont Highway Map shows in detail Expo connectors to all of Vermont's varied highway system. Quick bus service, also, reaches Vermont's west side.

How to Get Around at Expo: Arriving from the south, as most American visitors do, enter the south gate from the Longueuil Parking area, whence subways, buses and minirail cars will take you to the southernmost island (Ile de Notre Dame), then to Ste. Helene and the Vermont Pavilion, or beyond to MacKay Pier at Montreal.

Most transportation is free with your ticket. Ample dining facilities in the Vermont Pavilion area as elsewhere on the 987 Expo acres are in the $1 to $5 range.

Where to Stay: Expo officials are frank to say that they are counting heavily on Vermont's ample visitor facilities for the lodging of Expo visitors. Except for those who made Montreal area reservations last year, a Vermont base of operations is the most convenient and enjoyable arrangement for Expo-goers. Several thousand fine resort and overnight accommodations are available in upper Vermont about one hour's drive down from Expo. A multitude more lie deeper into this beautiful mountain country yet within a comfortable daily driving range.

The Information Center at Vermont's Pavilion is specially geared to help one establish Vermont headquarters or to quickly secure any kind of accommodation if you arrive at Montreal by another route. The "hot line" reservation system speeds the visitor to his selected lodging in Vermont, which is only sixty miles from Montreal.

A full and exciting day at Expo proves to be just that much more fun when you know that an attractive and comfortable lodging in Vermont awaits you that night.

You can see Vermont at Expo 67—then come one hour south for the real thing. We'll be glad to see you.

More than a dozen Expo highways cross the Canadian border into Vermont's scenic and historic recreation country. Full Official Highway Map shows all state highways and main points of interest.

All photographs by Vermont Development Department except cover, by Hanson Carroll.

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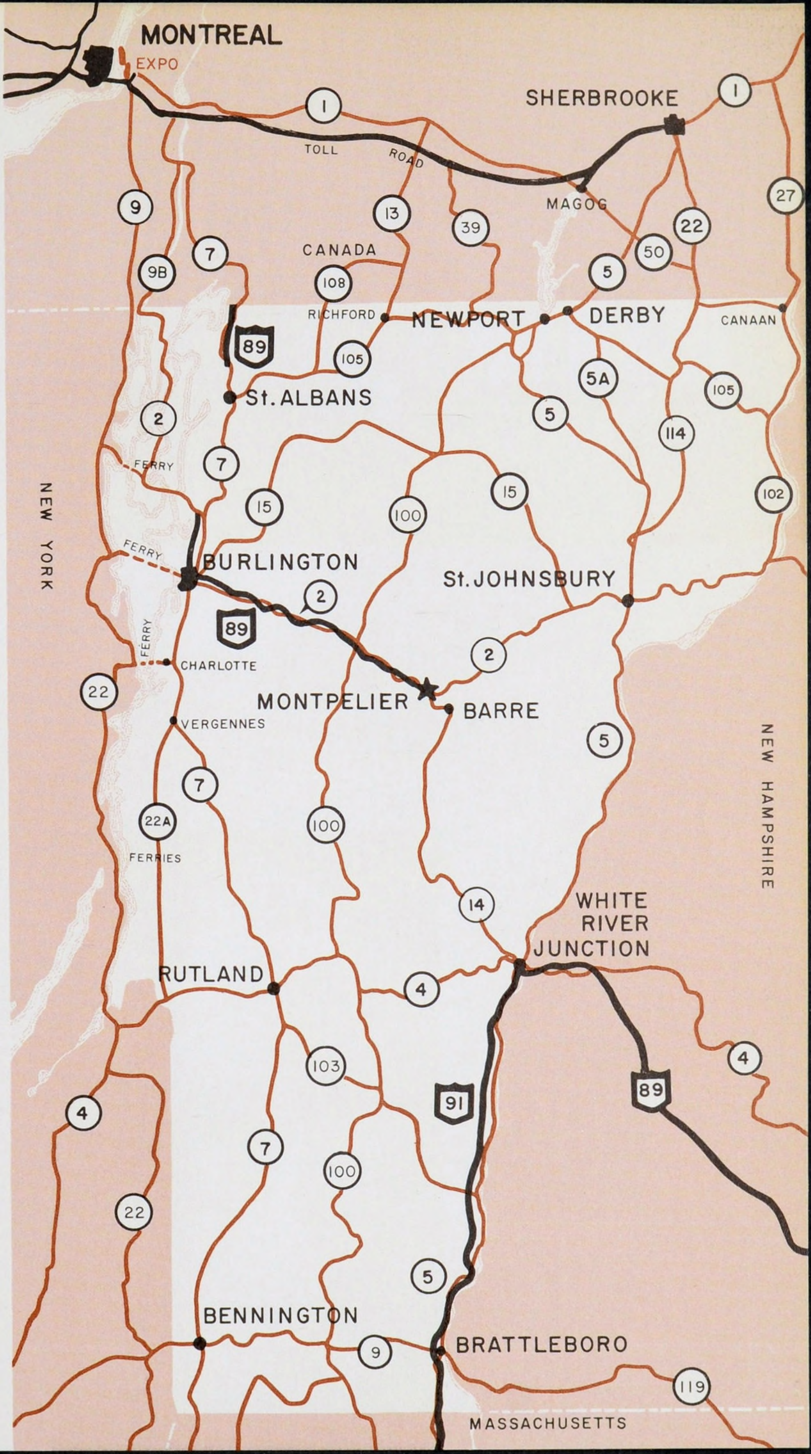
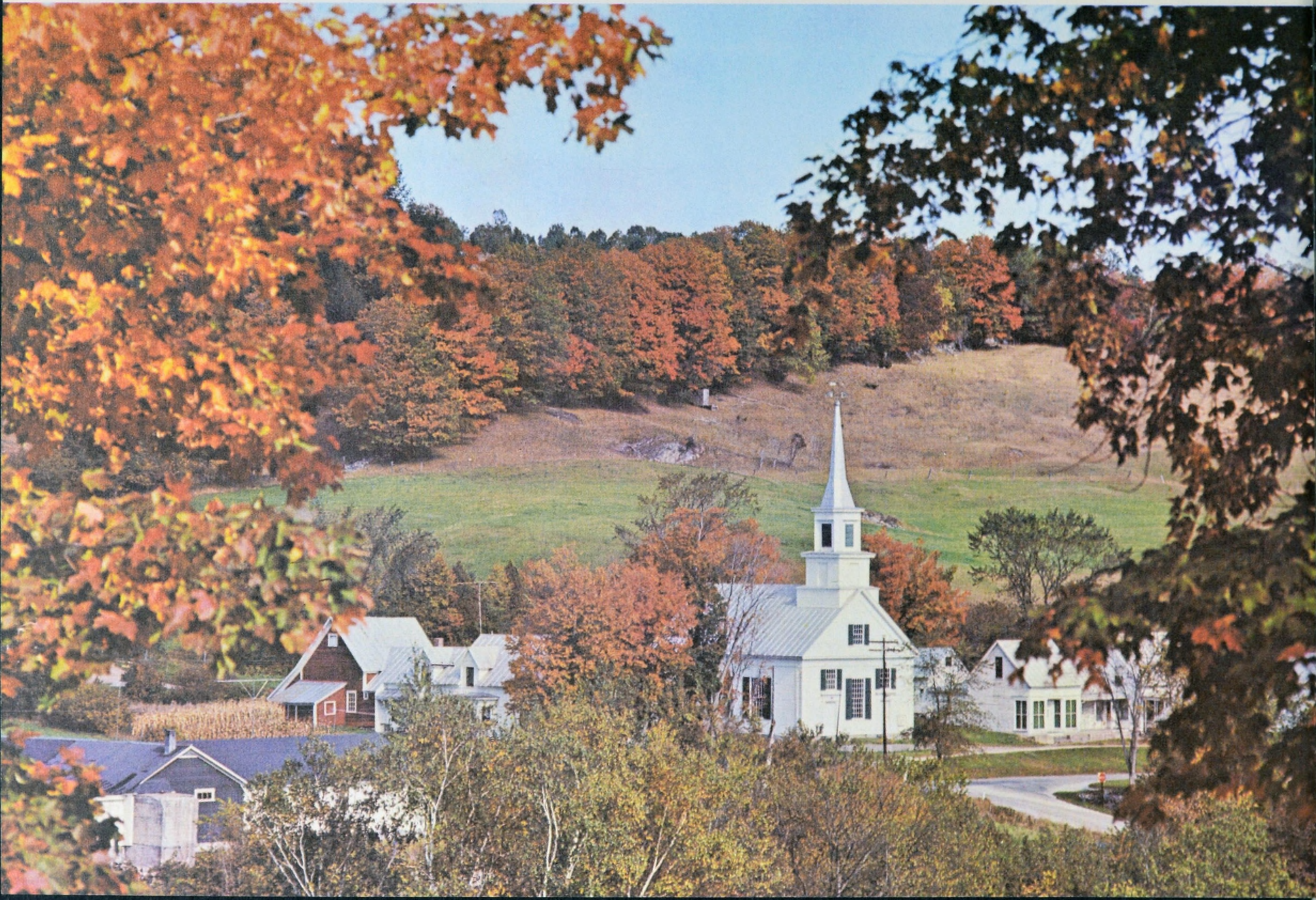
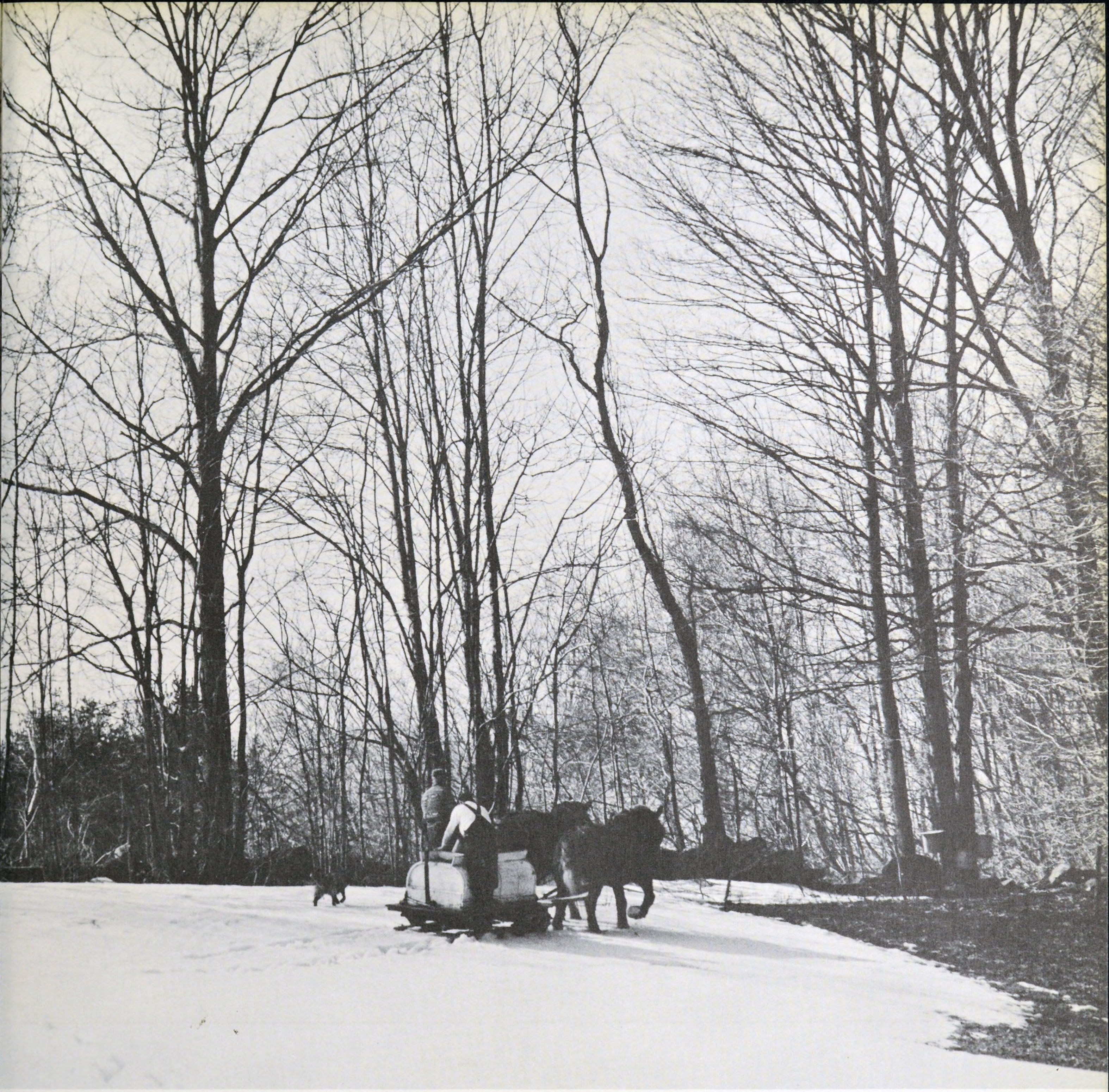


VERMONT– *the scenic route to Expo 67*



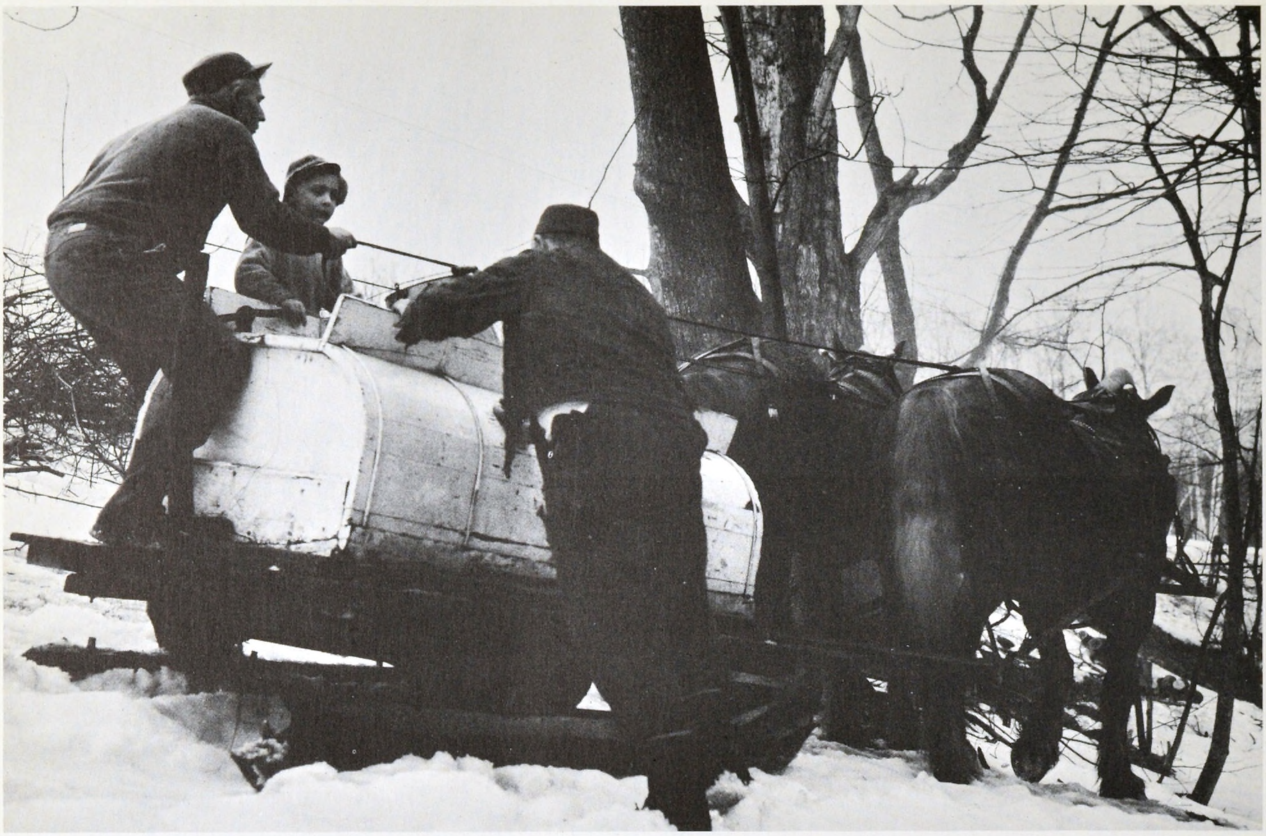


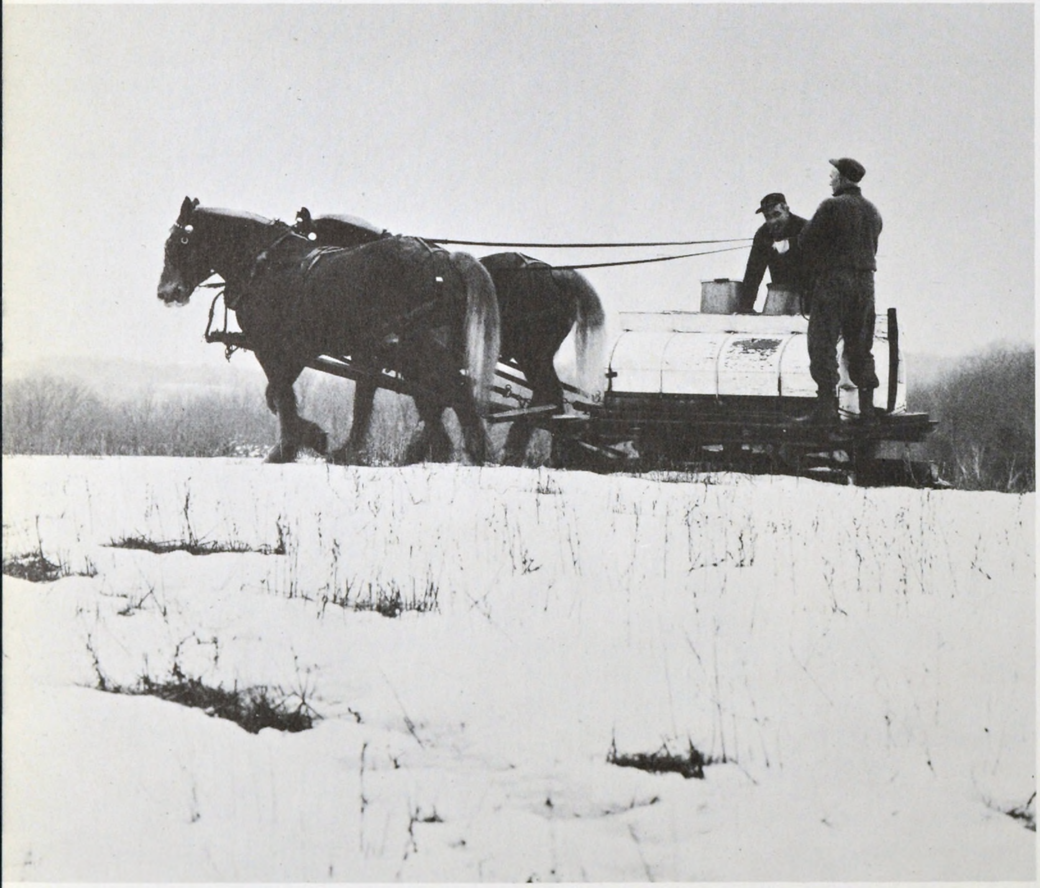
and it just sits there, looking efficient.

At the left Harvey must be back at the sugarhouse; I'm on the sled driving because this loop is really rough going. We call it the Bull Run. On ahead out of the picture we have to cross the brook twice, on the ice if it's frozen, fording if it's thawed. The wheel tractor couldn't do it, even with half-tracks on; you'd need a crawler unless you had a strong team. The horses have on calked Winter shoes that give plenty of purchase. Maybe you noticed the snowball Dan's built up under his off forefoot. He'll knock it loose himself. If it was solid ice we'd stop and get it out for him.

I wouldn't say they were uneasy along Bull Run; King and Dan aren't young and green. What I did there by the brook was just steering them to give them confidence, letting them feel me on the reins, keep talking to them.

Clayton's telling the truth there—he's always talking to them. In his sleep sometimes, start of sugaring, it's "Whoa, Dan; easy, King. Careful—*careful*." You have to be really rugged to handle this team, though, because they're so strong; right out on the bit, too. If they knew their own strength even he couldn't hold them.





But you can't say Clayt's only steering as we start for the hollow. He's never had horses take off with him yet—all right: not since he was eight and they spooked at a whistle blasted behind them—and he isn't about to let his team have their heads when they're taking a load like this downhill. You don't get nerved up, or it communicates to the horses: he's no more bothered than Ronnie there. Me? I'm seeing if the tub's so full that we'd best go right to the sugarhouse and leave gathering the hollow till next time.

We figure to haul on easier ground at the end of the day. They get grain morning, noon and night when they're working. Dan was kind of moony back in the woods, but he's sticking to business across the top of the pasture. Even he doesn't fool around when they're pooped.

We hang eight hundred buckets, divided among seven runs and all sorts of going; we can collect half of them in a prime sap day. This means seven, eight loads if the older kids are at home to help. Like all the other work, Clayton and I sugar on shares. It pays for itself and goes to support the three generations of Cuttings who live on the property. I don't know how it would be without horses. ∽

LIKE ALL YOUNG THINGS
ESCAPED FROM WINTER'S BONDS

boys in the Springtime

FIND NEW ADVENTURE
AT EVERY TURN

Photographs by HANSON CARROLL

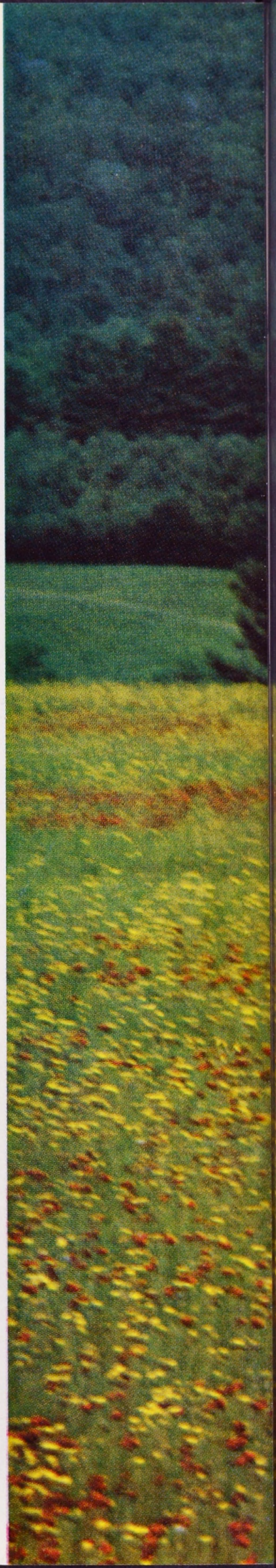
Jay was eight last Spring and Chris, the towhead, a year younger, when their father with camera followed their gambols and surprised introduction to young, jumping things, captured temporarily on the brook's bank.

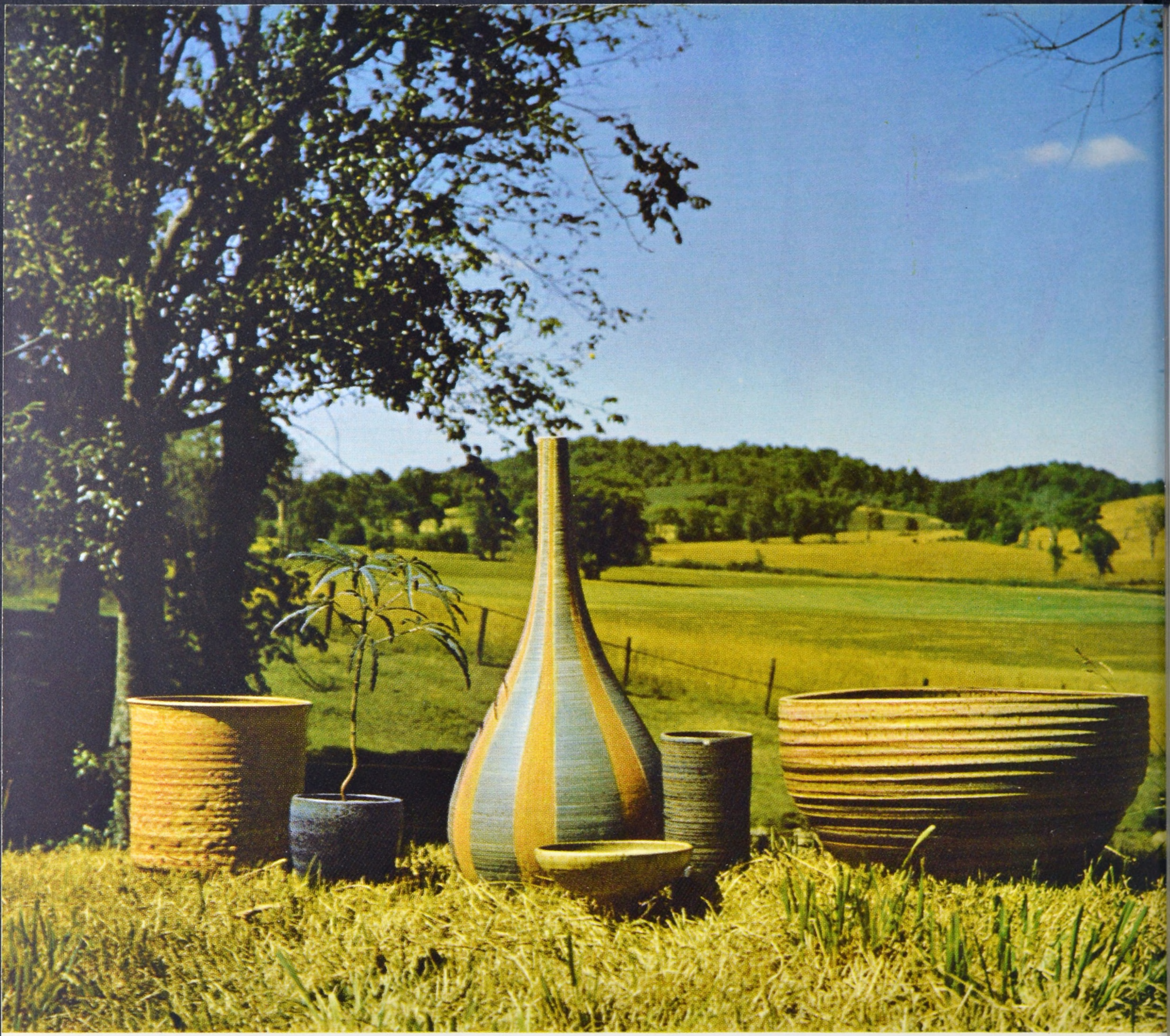
But just as the new friend escaped, the glimpse of another Spring visitor sent the boys running. The new lamb was a little timid at first, as they were, but young things make friends quickly.

In this open countryside, near their home in Norwich, the wide fields were full

of Spring and early summer flowers;
dandelions were waiting to be twirled until
the seeds floated off on gossamer wings.

The enormous green leaves of a rhubarb plant, still growing on an old farm site, provided wonderful fans and parasols and, eventually, masks for the Green Man. But there was lots more to explore beyond this flower-filled field. Away they flew toward home.





WORKING FROM A CONVERTED HORSEBARN IN EAST CHARLOTTE, TWO TALENTED BROTHERS AT

The Scatchard Pottery

CREATE UNIQUELY FORMED AND COLORED STONEWARE

by MAXINE KENNY

Photographs by CLEMENS KALISCHER

George Scatchard's youthful admiration for the old-time jug and crockmakers and a desire to "meet the man behind the pot" has developed into a flourishing enterprise in East Charlotte, Vermont.

Working in a converted horsebarn George and his brother Ted turn a ton of clay into award-winning pottery every month for markets throughout the East.

The brothers are serious craftsmen who strive for simplicity at a time when the trend in contemporary pottery is toward complicated design (such as a bottle with six necks). The simpler the design the harder it is to do well. "With a simple shape the defects glare, like a singer who is slightly off key."

George, who first felt the excitement of clay in a fifth grade classroom in his native Buffalo, later travelled the United States seeking the answer to making a living today as a hand potter in this country. He visited the Southern folk artists and resolved to combine their intuitive clay work with technology.

Last year George, 29, and Ted, 26, designed, "threw," glazed, fired and sold $12,000 worth of stoneware. The brothers have no secret formulas and, in fact, have shared their wealth of technical knowledge with any potter who has sought it. Their justification is:

"More good potters means more business for everyone concerned. We would like to see as many craftsmen as possible in Vermont, because interest in one hand craft stimulates interest in another."

George moved to Vermont in 1960 after graduating in secondary art education at Antioch College. Two years later Ted came to the Green Mountains from Antioch's creative arts department, but did not make pottery his livelihood for another two years.

The rugged terrain, the woodlands and the water attracted George who was seeking reasonable real estate where he could establish his pottery. And he was seeking a home where he could bring Lucy, the young Long Island City girl who had promised to become his wife. He found one-hundred acres of woods and ponds with a house on it in the town of Woodbury, Vermont. He bought it.

The pottery at left is distinctively Scatchard, both as to shapes and colors. Ted's heavily-textured piece, right, shows his flair for unusual glazes.

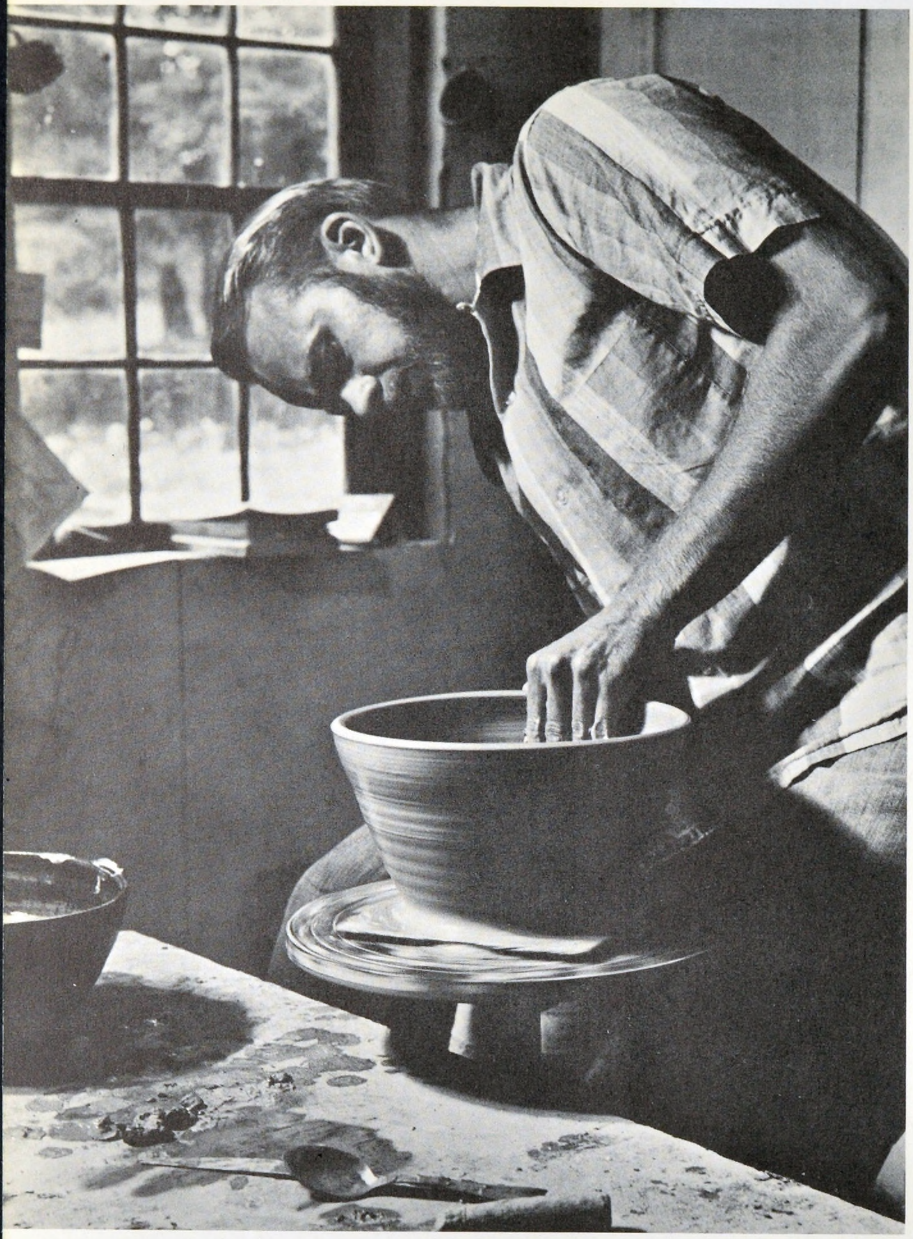
It was 28 below zero the night George brought Lucy to Woodbury and proudly showed her his purchase. They built a fire to remove the chill, and within a few hours the house was razed by fire, and along with it the potter's wheel, equipment, chemicals and unsold pots.

The couple lived in a tiny A-frame and cooked by an open fire while they constructed a six-room house. The Woodbury pottery, which began in the basement and was later moved to a separate building, began to prosper during the second year. George had found New York and Boston markets for garden pottery—large planters, lights and fountains.

He found his gas kiln wasn't sufficient to fire the number of pots he could produce. The kiln is the most expensive and permanent single piece of equipment used by the potter. Building a new kiln would mean borrowing money. As the orders for pottery piled up, the young couple considered the advantages of moving to a more populated section of the state and investing capital from the sale of their property in an expanded pottery.

Woodbury they remember with nostalgia. Here George built his first kiln, wood fired. Though primitive, there are certain very marketable glaze effects which only can be achieved by a wood fire. Little literature was available on the subject, and he found that poor design caused uneven heating, and up to 80 per cent of his pots had to be discarded. There will be another wood kiln someday, he says, but just for fun.

The Scatchards surveyed the state for a suitable location, then bought an old barn in Williston Village and rented an apartment in Burlington. George built another gas kiln. It was a modern updraft design, was lined with insulating firebrick,



Both Ted, at left, and George, use a specially-formulated clay mixture which absorbs water slowly and has a high green strength. This is part of their techniques which allow them to apply glazes to the green ware and produce the finished pottery in a single firing, yet without excessive breakage. The brothers also use variable-speed electric wheels which best will accommodate work of widely varied sizes. George, who often throws exceptionally large pieces, at right gets an unexpected bit of assistance.

and was framed with steel salvaged from bountiful junkyards.

Technical problems which produce seconds (George calls them the curse of the potter) had been cut from 80 to a more palatable 5 to 10 per cent. Production was climbing, and sales which had ranged from $300 to $1700 per year in Woodbury, multiplied in the Williston shop and reached $9000 the second year.

Another change was taking place at home, and the city apartment proved too confining for a growing family. The old abandoned farm in East Charlotte was the answer for reuniting the family, the shop and the open country. Lucy, George and their two young daughters moved into the farmhouse during the winter, and it was there that they welcomed their first son.

In the spring of 1965, Ted, who had been working as a camp counselor and teaching crafts, entered a full business partnership with George. Ted readily acknowledges his brother's technology has greatly affected his own pottery. Actually, his choice of the potter's wheel was influenced by his older brother, as were his moves around Vermont.

The horsebarn was jacked up, straightened and cut off, and then lowered onto a newly poured cement floor. The kiln was moved from Williston and the kiln floor was placed on rails so it could be loaded from three sides and then pushed into the firing chamber. Only a month of production was lost. "We began throwing pots as soon as the wheel hit the floor." In November the Scatchards opened a retail showroom.

In the pottery shop the artist-craftsman controls nearly all the processes of production with his own hands. What is the character of the pottery which has found an increasing market throughout the East?

"Few shoppers actually appreciate what they are looking at in a piece of pottery," says George. "The design of a pot, as well as its finish, must be accurate if it is to be functional. For instance, a pitcher must be light enough to lift, should be easily controlled by its handle, a channel should lead to the spout and the spout should be dripless.

"A hand thrown pot has a life about it which cannot be achieved by a machine. It has life because of the smooth, controlled way that it grew," explains George. "We do not make accidental pottery—each shape is a preconceived design."

The brothers use motorized wheels, and George discounts the academician's tale that a foot-controlled wheel is more sensitive to the potter's needs. "It's just not practical to be a peasant these days. Even the southern folk potters use power wheels." The Scatchards use multi-speed wheels because their pots range from four-inch coffee mugs to two-foot planters. Power simply means increased production.

The Scatchards use Ohio clay which is mixed to their specifications near Boston and as wet clay is trucked to the shop in 50-pound plastic bags. Their formula has a high plasticity and has been adopted by several other potters.

Visitors come and go, but none can look casually at a hand thrown pot again, nor can he accurately describe what happens as the potter's hands urge, coax and pull the clay through a series of forms as the wheel spins. It is as if one could plant a seed and the plant sprouted from the ground, matured, and burst into flower . . . all in a matter of minutes.

Each newborn pot is personally signed and then dried—a mug takes a day and a planter almost two weeks—and the glaze is then brushed, sprayed or dipped on the green (unfired) pots. The glaze, the consistency of heavy cream, is a combination of water, minerals, and clay (which acts as a glue). In a departure from tradition, George measures the ingredients of his glaze "recipes" by volume rather than by weight. The batch is then weighed before adding a small percentage of metallic oxide which produces the color.

Ted has begun to decorate some of his pots by scraping designs through the wet glaze to expose the clay. George is interested in pure shape and feels decoration is beside the point, but he does vary the texture of the thrown clay to enhance the form. The fired glazes may be bright or dull, opaque or transparent, thick or thin. Ted's real contribution to the finished stoneware, according to his older brother, has been his adventures with glaze effects.

Single firing as used by the Scatchards is probably done by only 10 per cent of the artist potters today. Even though it adds a costly step in time and labor, most potters would rather fire the unglazed pot, glaze it, and then refire the glazed pot, since single firing runs the risk of cracking the unfired pot with the wet glaze. Why do the Scatchards have such a low spoilage rate?

"Single firing is very tricky, and know-how is the only answer. It has taken years of learning from mistakes. We now use a clay which doesn't absorb water rapidly and has a high 'green' strength. Too much glaze in one spot can cause crawling (exposing the clay) or pinholing. We feel our method of applying the glaze evenly, usually with a syringe and a brush, is very important."

If watching the pot grow is exciting to the onlooker, the drama heightens for the potter when he commits the product of his labor to the fire. The heat is kept low during the first 12 hours, to dry the pots without boiling any moisture remaining in the clay. During the second 12-hour vigil the heat is increased to a peak of 2400 degrees. It is during this time the oxygen is decreased, causing the smokey fire to hungrily devour the oxygen in the glaze and clay—and the pottery is thus "reduced." The stoneware becomes almost glasslike in density. Peepholes in the top and bottom of the kiln door, which earlier spit fire and smoke, become quiet as the heat is decreased, but it is another 12 hours before the pottery can be removed safely.

When the door is opened and the kiln car is rolled into view, the arduous hours of reduction firing have been justified. The soft, warm, mottled glazes have become as clothes to a woman—both practical and complimentary to form. It is not surprising that the different parts of pots are described by familiar human shapes: foot, belly, ribs, shoulder, neck and lip.

Finished pots are displayed in the retail showroom connected to the shop, or are shipped to urban shops. George, who praises Ted's marketing prowess, is quite willing to sell wholesale, but Ted has misgivings about it. He feels a sale has to make friends with the consumer. "People should know they have bought a Scatchard pot," he maintains, "and each sale should build the potter's reputation."

Ted is dedicated to an independent livelihood more than to pottery itself. He works on a part time basis at the pottery. In his new house down the road there will be a non-pottery workshop where he can explore wood and metal crafts. He was the only New Englander to receive a merit award for three items (all pottery) entered in the 1965–1966 New England Craft Council's exhibition for new and emerging craftsmen.

Two years ago George was named in Cue Magazine's bright new faces column. He is making a modest income, although half the profits are turned back into the pottery each year. His work week has declined from 80 to 40 hours. The University of Vermont asked him to create and teach a ceramics course within its art department, and he hopes it will free him from production pressures. He undoubtedly will build more free form pots which are sculpted rather than thrown on the potter's wheel.

George doesn't think the crafts are dying, but rather that their public image has become clouded by the do-it-yourself craze. Both he and Ted agree that customers appreciate having bought a pot which contains something of the potter—a pot with a delicate balance of usefulness and beauty which has begun its life by reflecting its simple origin.

Living the good country life is, for George and Lucy and the whole family, reason enough for the widely-sold Scatchard pottery to show a Vermont address.

Nature and Francis Somers SEE TO IT THAT PEACHAM'S SIX-ACRE CEMETERY REMAINS AS IT BEGAN, A PLACE OF TRANQUILITY AND BEAUTY

by **LOUIS A. LAMOUREUX**

Illustrated by **ROBERT MACLEAN**

IN PEACHAM VILLAGE at precisely 7:45 of a May morning, Francis Somers latches the door of his immaculate brick house. With brisk step he begins the walk he has taken for forty years to his work.

It's uphill all the way to the cemetery where he is sexton but the walk is no effort for Francis who, at 73, keeps his customary weight of 130 pounds and is as trim as a youth. To young and old alike he is Francis; in Peacham it is perfectly respectful and usual, especially if well liked, for an older person to be called by his first name.

Francis was hired by Peacham's first and only cemetery commission as assistant sexton in 1927—on the morning of March town meeting day, to be exact. Two hours later the commission was abolished by the citizens who were incensed over its program to cut all the trees in the cemetery. This decisive action put an end to the cemetery commission, but fortunately did not end Francis' job.

To those who have seen the Peacham cemetery, it would be next to sacrilege to cut a single tree that shades what must be Vermont's most beautiful cemetery; some visitors say the most attractive in the country. Nature and Francis contrive to make it so. A place of tranquility, the cemetery is silent except for the soughing of tall pines and the soft stirring of maples, shifting patterns of dappled sunlight across the gray stones and closely cropt graves. Enclosed by a white rail fence, the six acre plot lies on an eminence of land sloping downward to glistening grain fields and falling off into a wide bottom of tilted meadows and patches of evergreen woods, sweeping up again to Harvey Mountain, round and tree-tufted, its slope a Harlequin coat of maple bordered fields. Beyond lie the hazy humps of the White Mountains.

A lot of people come to the cemetery. Some are tots from the village, come to pick wild strawberries among the stones and fluttering flags. Others are looking for curious stones; Francis directs them to the lot of the Ash family where the main stone is the perfect representation in carved granite of the trunk of an ash tree entwined with ivy, and the headstones represent chunks cut from that tree. Many are amateur genealogists, trying to complete gaps in the family history; cemetery groupings are often more telling than town records. Francis is always ready to help.

The Peacham cemeteries are owned by the town. Two others no longer are used. Any property owner in town is entitled to a free lot, but no lot can be selected in advance, not until there has been a "break" in the family. Many visitors to Peacham were so impressed with the beauty of the cemetery that they bought lots there even though they had no Peacham connections; an added incentive was the price to outsiders of only $20 a lot. In recent years this practise has been discontinued—and none too soon—as there are only eight lots remaining. No running inventory of burials has been kept, but a while back Francis counted nearly 3,000 stones.

In rural Vermont, cemeteries are most often town owned. Some are administered directly by the selectmen, as in Peacham; others by a cemetery commission with vacancies filled at town meeting. In a few towns they are owned and administered by private associations and, of course, there are some parish owned cemeteries. Town owned cemeteries are self-supporting. It is a rather wry situation where in many towns the institution for the dead has more endowed funds than its institutions for the living. Vermont law is most explicit in requiring that cemetery money be kept separate from town money, though hard pressed town fathers are often sorely tempted to bolster meagre general funds with the fat cemetery surplus. At last report the Peacham cemetery trust funds totaled $38,000, deposited in five Vermont savings banks and invested in stocks and Government Bonds.

The term "sexton" derives from the word "sacristan," a church officer having the care of the church building and its contents, ringing of the bell and the digging of graves. In Peacham, the cemetery sexton has no church responsibilities, though at times Francis has held the two separate offices of cemetery sexton and church sexton simultaneously.

Tools are necessarily involved in the work of a sexton, and they hang clean and shining in the tool house—spades, a pick, turf cutters and clippers. Graves are decently prepared in Peacham with muscle and spade. Except for lawn mowers, no machinery is used in the cemetery. For many years, Francis pushed an iron wheeled mower, but when power mowers came onto the market, Francis bought one for cemetery use out of his 90 cents an hour wages. He says, "After I had bought three of them out of my own pocket, I wised up. Now I let the selectmen buy them."

All summer long, mowing the grass is a daily chore. Over the years, Francis has worked out a pattern of mowing by swaths each day; he finishes the last segment just as the first needs it again so that the six acres of slopes and terraces are always neatly cropped. "In June it darned near gets away from me," he says. Francis is dwarfed by the tall pines as he guides the mower among the stones, and the mower, trailing a thin haze of vapor, sounds muffled by the vastness of the area and the canopy of foliage. But mowing is only a part of caretaking. There is hand clipping to be done around every stone, sunken graves must have the turf cut away and be filled, stones righted and sometimes scrubbed, thin spots reseeded.

As Francis works among the stones, he moves among memories of nearly a lifetime of friends and acquaintances, now committed to the dust of time. Often the tears of his own grief have fallen upon the earth with which he closes the grave. He is very sensitive to the sorrow of others. In notebooks, there are several of them now, he has recorded all the 475 burials of the last 40 years in meticulous detail. As he turns the pages, he reminisces.

For the first grave that he dug, he received 75 cents. A year later he had his biggest and most unusual burial. When a certain summer resident died, he left instructions that he be buried in some pasture land he owned on a height of land where grazing cattle looked out onto scenery of most extravagant beauty. "Golly, there was a lot of red tape to get a permit," he says. The day of the burial arrived and so did a "regiment of people" out of curiosity. A truck carried the casket, enclosed in a heavy box, as far up the hill as it could go. From there, twelve "city men" bore the heavy box to the burial site

at the top of the hill. "They kept playing out. Gorry, it's a wonder one of them didn't go." It did not seem right to Francis to leave the grave where cattle could tread on it, so after the burial he chopped some cedar posts and enclosed the grave with barbed wire. The next summer, the widow returned to visit the grave. Was she touched by this well intentioned act of respect? Not much. She ordered the fence removed; her husband had wanted the cattle to move freely over his grave. When asked if she planned to be buried by his side, she answered, "Heavens, no!" Her request was to be buried in her parents' lot in Peacham Cemetery as indeed she was at last. A couple of years later, "stone men" came and selected a boulder from the pasture, hauled it to the grave and fixed a metal plate to it. To this day, cows graze at will on the grave.

Francis is one to honor as sacred a dying request. This often causes him great inconvenience and turmoil of mind and spirit. He thumbs the pages of his notebook and finds an instance. Because Peacham Cemetery does not have a receiving tomb, it has been the custom, except in most extreme winters, to make interments all during winter months. One particularly hard winter, he ordered the cemetery closed. Along about the worst part, when the snow lay deep among the stones, he received a brisk call from a prominent banker. An elderly and rich director of the bank had died, how soon could he prepare the grave? Francis explained that the cemetery was closed to burials until spring, and since one family had already been refused burial of one of its members, he could not make an exception in this case. The banker, whose approach to any problem was definitely on the gold standard, emphasized that expense was no consideration—the deceased had died rich, with more money than his heirs could spend—just do what is needed and there would be cash on the line. Francis argued that money was not the issue, the poor would receive as much consideration as the rich; that one family of meagre means had already been required to go to the expense of placing a member in a St. Johnsbury receiving tomb; that putting a winged plow in the cemetery would be at the risk of toppling or snapping in two some markers. Knowing Francis, the banker realized the futility of pursuing his line of persuasion. He dropped his voice to a solemn and mournful key. The rich man in his final hours of agony, feeling that he would be gone by sun down, had pleaded not to be placed in a dark and dank receiving tomb, but to be laid by the side of his loved ones as soon as possible in the Peacham cemetery. And the banker had given his word to carry out the request. Francis was on the defensive. "Gee, I hated awfully to say 'yes,' and I hated awfully to say 'no.' Wouldn't those other folks consider it discrimination? What if the pressure of the plowed-back snow snapped some of the stones? But, gosh, a feller ought to get his dying wish."

Would there be a vault? Oh, yes, the biggest and best that money could buy. To add to that problem, the lot was at the very back of the cemetery. Tense and wincing, Francis watched as the snow plow, wings aspread, churned its course the whole length of the front of the cemetery, the entire depth, and clear across the back of the cemetery, putting in jeopardy the maximum number of stones. There was no damage, fortunately, and no repercussions, but after many years, Francis still ponders that decision.

There is drama to the job, too, and sometimes it is on the stark side. Francis found the page in his notebook. A lady, well along in years, had taken care of an elderly man during the years of his declining health and finances, the arrangement being that she would inherit his small estate. At his death, she made arrangements to have him buried in her lot. The night before the funeral, a daughter from out of state came to Francis' house. Was it true that the man was to be buried in her mother's lot? It was. The woman was most direct, "Francis Somers, if you bury that man in my mother's lot, I will kill you!" Francis' eyes snap and his voice is incisive when defending a principle, "Judas Priest, it's her lot and she can bury who she wants in it." Before she slammed the door on her exit, the woman warned him, "When you lower his body into that lot, you will be shot." He yanked the door open and called after her, "If I am still living by then, he'll be buried there." Francis was a little nervous at the burial, but the daughter never showed up.

Once though, as he worked alone in the quiet cemetery, he nearly dug his own grave. He jogs his memory with the notebook. A man's body had been shipped from out of state for burial. No one appeared for the burial to give instructions; all he knew was that he was to be buried in his parents' lot. Francis assumed that he has been a bachelor and placed him next to his mother. Several months went by and one day a lady showed up inquiring for the lot. It was the man's widow. Not that it made much sense to Francis, but she wanted the body moved down one place from the mother's to be next to where she planned to lie someday at the corner of the lot. Francis thought he could save himself some work if he dug the new grave first and then, by digging around the coffin, he could slide it into its new position. It didn't work. The whole pile of dirt came tumbling back into the grave, burying him solidly to his eyes. Fortunately he had sensed the situation in time to throw one arm across his chest to protect his ribs. This placed one hand in a position where his fingers could work up to brush the dirt away from his nostrils so that he could breathe. Finally he was able to get both arms free and managed to pull himself out of the grave. No one would believe him when he told of the incident in the village.

It is lonely work at times, and sometimes he must work frantically against time and the elements. Occasionally he has had to dig a grave by moonlight on a cold winter's night when an "awful snag of wind" would blow down from the top of the cemetery, dimming and threatening to put out the lantern.

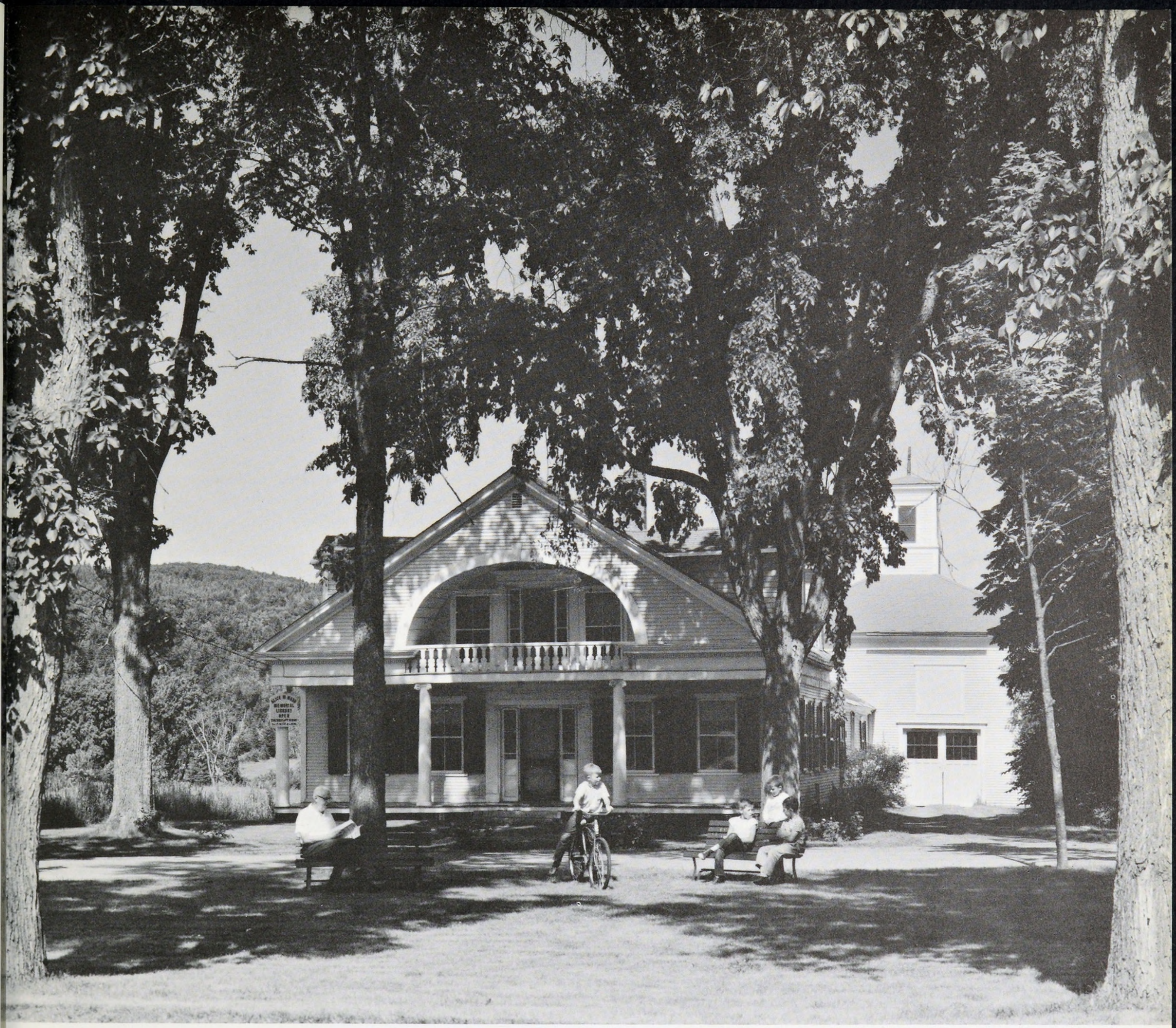
There is a "terrible amount of bookkeeping" so Francis' day is not over when he leaves the cemetery in the late afternoon. He has a file of index cards for each lot as he must keep a record of those lots having perpetual care (a minimum, now of 150 dollars), and those lots for which he must send out bills annually for care of the lots. There is often correspondence. His late wife, a very capable woman, beloved by him and the entire community, set up his bookkeeping and took care of all the bookwork. She passed away in 1962; time has not assuaged his grief.

Francis also has two smaller cemeteries to tend. One dates from the settlement of the town—the first burial in it was in 1787 and the last in 1851. It has some interesting primitive stones. The other cemetery is on a back road and is shared by another town—the town line running through the exact middle of it. There is no fence or other visible boundary, but the Peacham half is well tended, while the other half lies deep in weeds with stones in poor repair.

His pay, now, is $900 a year. A few years back he received $1200 a year. But he helps out a lot of people in the village, spending added hours mowing their lawns, putting up and taking down storm windows, closing and opening the homes of summer residents; since he did not want to let these people down and he would have his social security "balled up" if he earned more than $1200, he went to the selectmen and dumbfounded them by asking to have his pay reduced to $900.

It has been a vain search for some young man to work with Francis awhile, and then take over the work of Sexton. In this age few are interested in this kind of work where the only fringe benefits are in the satisfaction of a job well done. There is a good man who comes in to help Francis from time to time, but he is past retirement age too. It bothers Francis to have no successor in view. He keeps all of his records up to date including a map painstakingly drawn by him to show the location of graves so that if he "steps out" it will make it easier for whoever follows.

To praise, Francis responds humbly, "I am glad that I am able to keep the cemetery looking nice."



Handsome porch of what is now the Ward Library in Canaan was built about 1840.

Recessed Porches

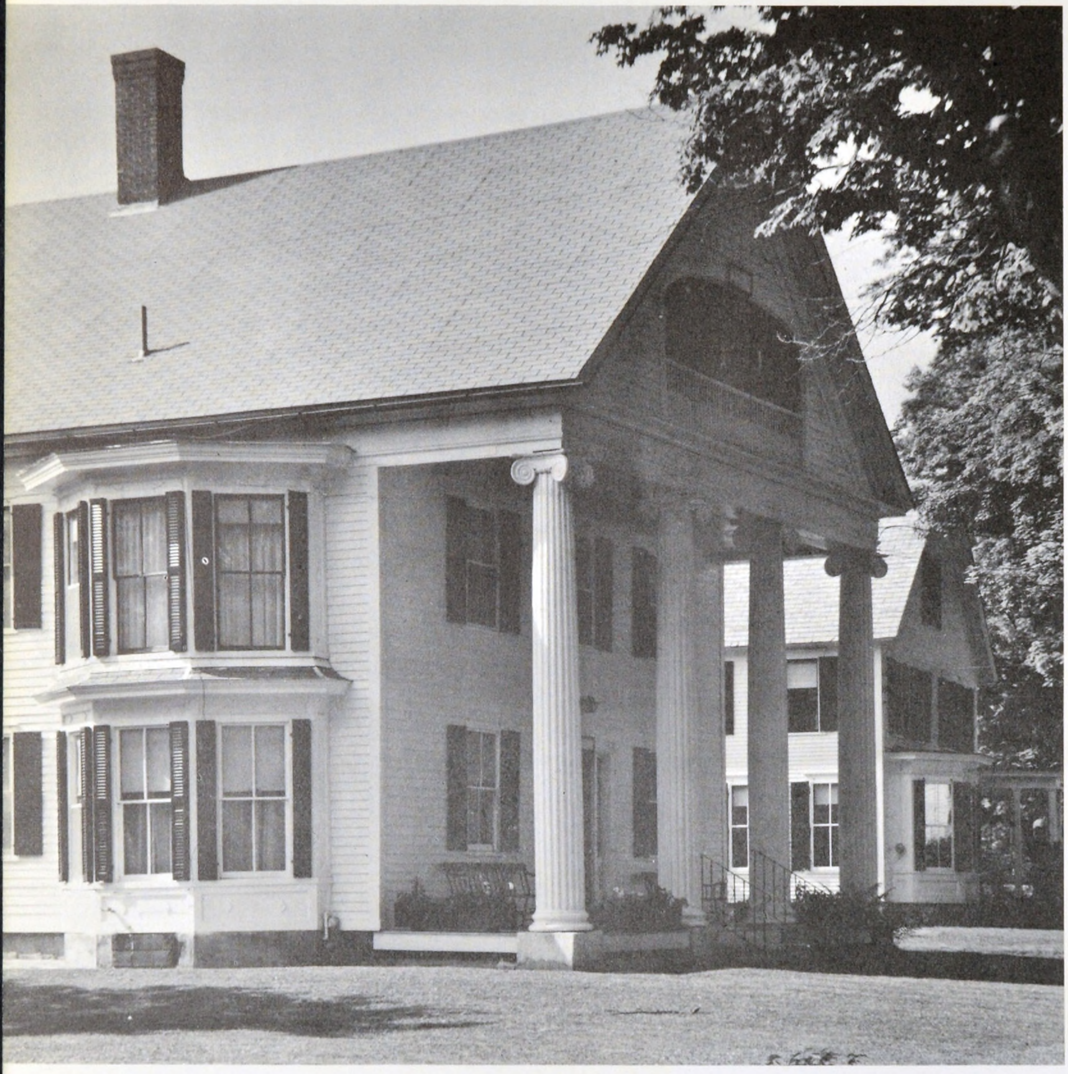
ARE A FEATURE OF VERMONT ARCHITECTURE, BUT MYSTERIOUSLY THEY ARE TO BE FOUND MAINLY IN THE EASTERN HALF OF THE STATE!

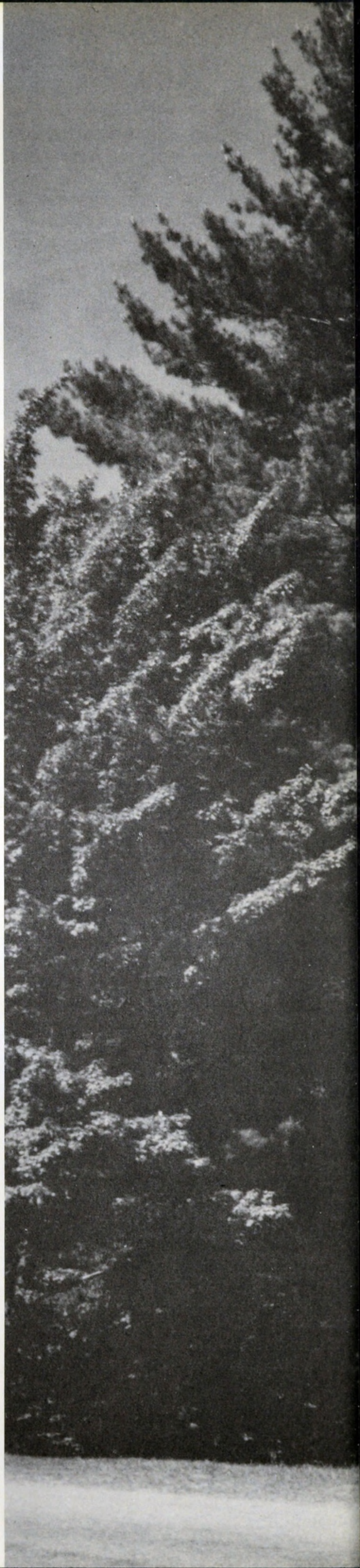
by NELL M. KULL

Photographs by JOHN HARRIS

ALTHOUGH a few examples of the recessed porch (one extending out from the second or third storey) are to be found in Canada's Eastern Townships and in Massachusetts, and even one as far afield as Freeport, Illinois, this porch style seems to be a piece of architectural beauty peculiar to Vermont. Some fifty or more are to be found in one half of the state, east of the Green Mountain range, from Dummerston on the south to Derby Line on the north. In a single day's lazy drive, one can easily reach and admire a dozen or more.

As well as can be determined, most of the recessed porches date back a century and a half to the first quarter of the nine-



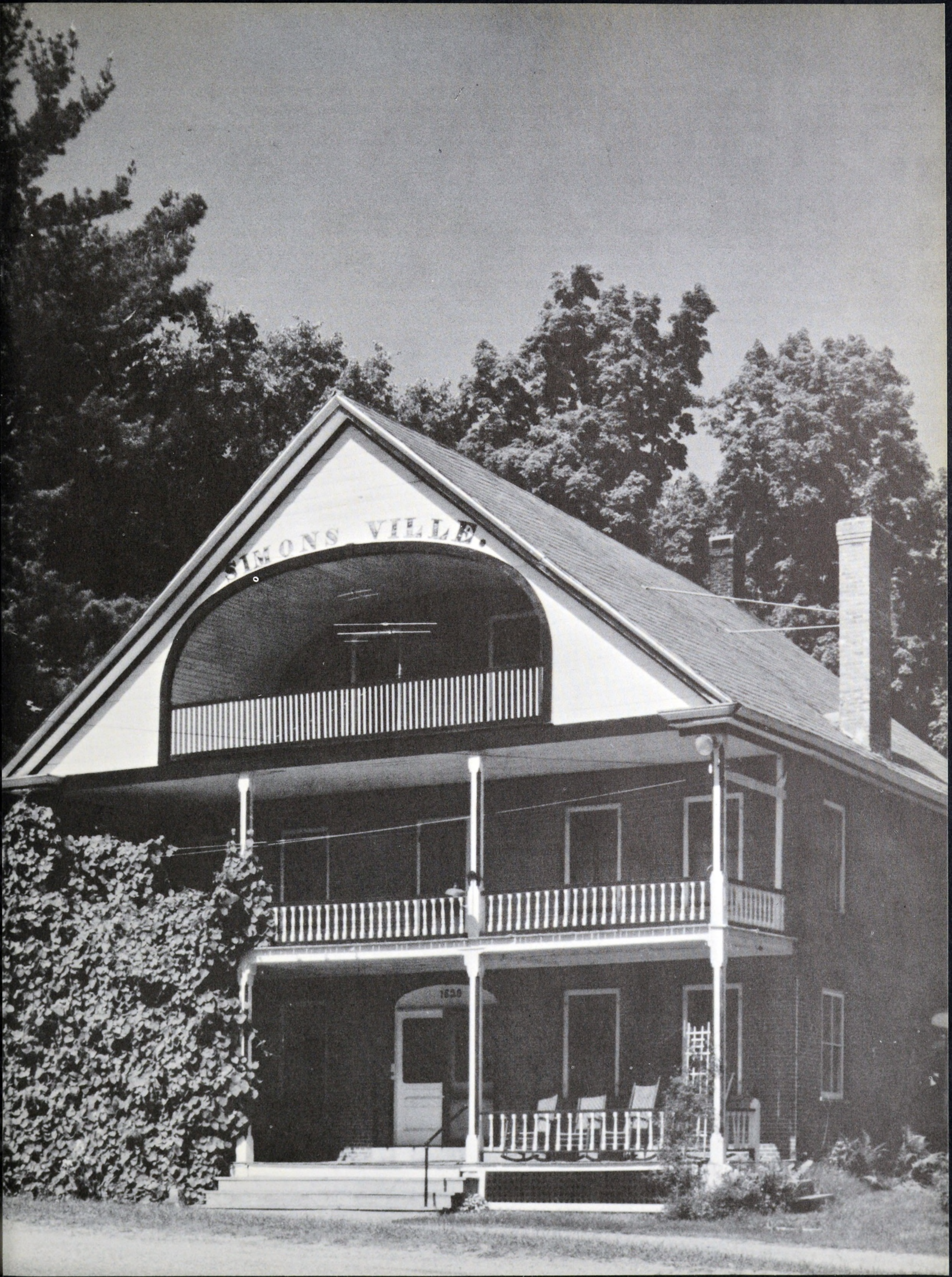


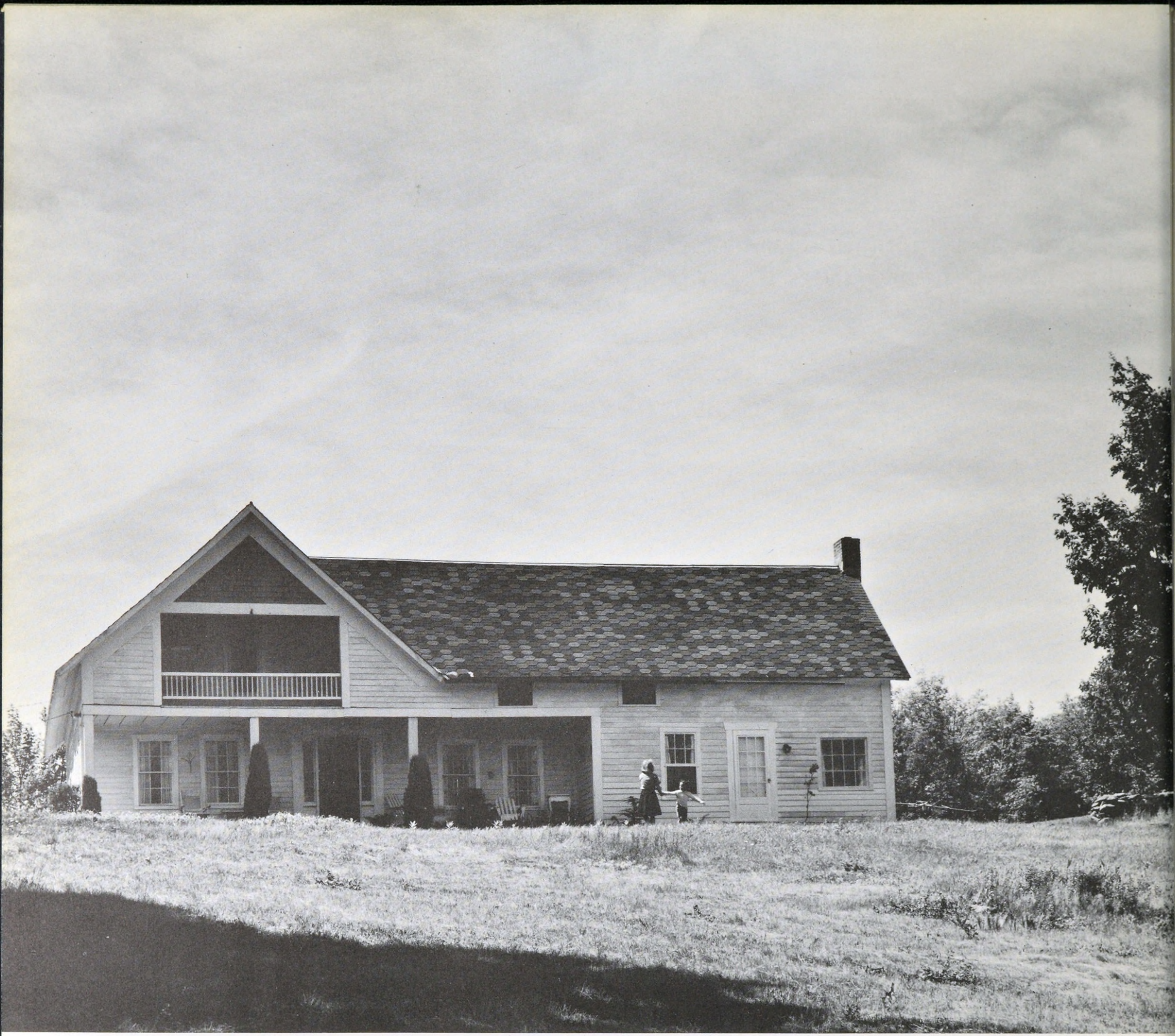
Above is the Kimball House in Newfane and opposite the handsome old Rowell's Inn at Simonsville, near Chester.

teenth century, a period in the classical revival. The porch of our interest was usually built on the front of the house, although occasionally on its side, as in Jamaica. We may liken the house front to the Greek portico. Beneath a broad peaked gable, and out from the second or third storey, there extends an over-hanging porch, the Greek pediment, supported by simple posts or imposing columns, which rise from a porch floor below. Through doors or windows of the back wall, this upper or recessed porch opens into either bedroom, hall or chamber.

But the beauty of this piece of architecture is the graceful arch which usually crowns the opening in the partially closed outside wall of the porch. At floor level a graceful railing protects the persons within, a modified entablature. When a recessed porch extends from a third storey, the residence is larger and more elegant, such as the Kimball house across the green in Newfane and the Low house in Bradford, where, in both cases, four handsome Doric columns rise from a first floor level to support the recessed porch above.

How and why did this fascinating archi-


SIMONS VILLE.
1820



John Whalen home lies on the Healdville road in Mt. Holly.

tectural detail of the Greek Revival happen to emerge?

The fact that Vermont's recessed porches occur in a narrow strip of the state (two or three examples are often found in the same neighborhood or village) would suggest that a few local carpenters had the use of master-builders' manuals, inspired by the curves and columns of the Greek Revival. It would not have been difficult to persuade a patron that a lovely recessed porch on his new house would make it a show-place in the community—so another one was built, and owner pride boosted.

For weather-conscious Vermonters, a partially enclosed porch, facing the south or east, as most of them do, which would let in the winter's morning sunshine may have been another reason for the recessed porch. Because few of these porch arches fail to frame a striking landscape of mountain or valley suggests another reason for their being.

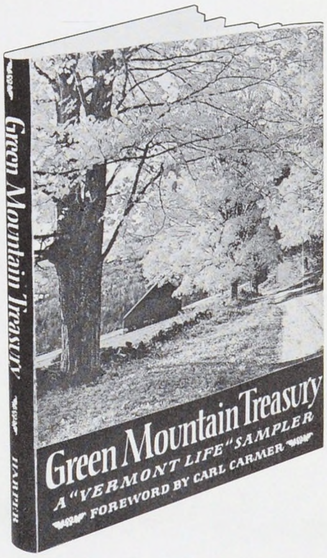
Enjoyment of the out-of-doors as part of his dwelling has long been the desire of civilized man. Hundreds of years ago, balconies of stone jutted from the walls of Roman villas as did those of wrought-iron grill work from Spanish palaces, all in the effort to catch fresh air and sunshine, but out in public view they furnished no privacy. In modern city apartments, balconies are again a much desired feature.

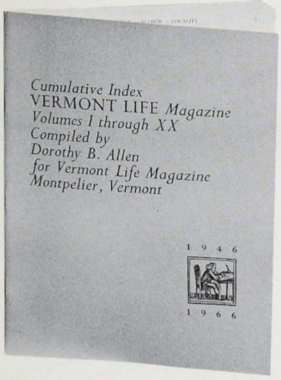
In the handsome modern apartments designed by the New York architect, M. Milton Glass, balconies are part of the outside wall, but they are recessed into the frame of the building, presenting the maximum of privacy, as well as sunlight and air and a view of the street or park below.

A century and a half ago, the recessed porch in Vermont, partially walled, gave to its owner, through its graceful arch, this very combination of comfort, besides being a flower of the brief classical revival, an architectural thing of beauty in New England. ∽

"Welcome, Friend, to our giant Vermont bargain counter," quoth the Green Mountain Postboy

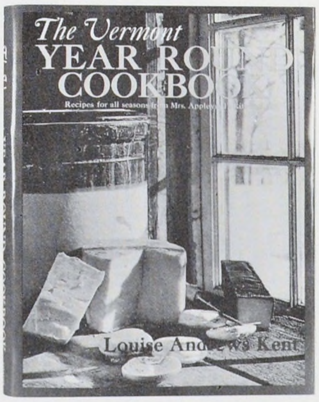
GREEN MOUNTAIN TREASURY—*There aren't many left (so why is he pushing them?) of this classic Vermont gift book, published by Harper & Row. It is a choice selection of the best articles, picture stories and color reproductions selected from ten years of Vermont Life Magazine publication. The book contains 188 pages, 60 of them full color pictures of the changing Vermont seasons, printed in large, magazine format. The very last copies of this Vermont collector's volume are still available from Vermont Life Magazine at the lowest offer price of $4.95. We advise sending your order now before it goes out of print.*

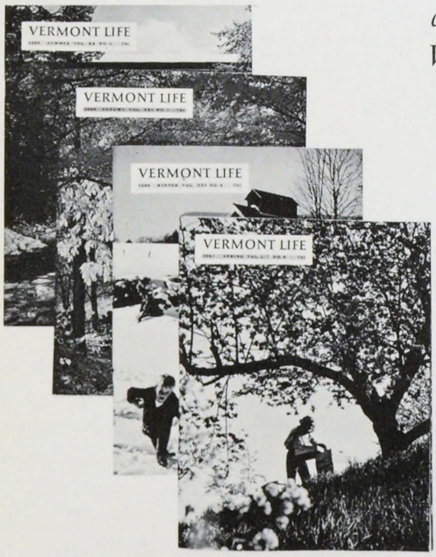




CUMULATIVE INDEX—of Vermont Life Magazine's first twenty years of publication is a *must* for all Vermontophiles, insists the Postboy, whether or not you yet have a full set of the magazines. Copies of the Index are $3.

THE VERMONT YEAR ROUND COOKBOOK—*is a handsome, color-illustrated culinary classic containing the famous Mrs. Appleyard's best Vermont recipes. The volume, well indexed and attractively bound, is written by Louise Andrews Kent. This handsome gift book and Vermont best seller costs $5.95.*





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VL REPORTS

On Vegetable Gardening

SAMUEL R. OGDEN

WITH THE ADVENT of the super-market, freezing processes and new packaging, it is certainly easier for everyone, even those residing in the most remote places in the hills, to buy their vegetables than it is to raise them; and if, in calculating the cost the gardener puts his time in at a figure that he could earn doing other work, the sorry specimens of everything from asparagus to zucchini that can be picked up in the market will be less expensive as well. So, being relieved of the necessity, few people who live under circumstances where they could, and in the past they would, grow their own vegetables do so any longer. One aspect of progress no doubt, but like so many other examples of technological development, this one results in the debasement of taste and in alienation from nature.

So my first and most important charge is to gain some converts, and to give fresh enthusiasm to those who have tried but have become discouraged. To have a vegetable garden is to undertake hard work perhaps, but work that is beneficial to the body and soothing to the spirit. Here, working in the garden as the birds call and the pleasant sounds of outdoor life caress the ears, the tensions and worries of routine affairs fade away and the mind exchanges worry for serenity.

For those who spend most of their summers in Vermont the idea of a vegetable garden is extremely appealing, but there may be some serious problems if their home is in the hills where the growing season is short. In any event unless they can be on hand when the frost leaves the ground it will be necessary for someone to be hired to prepare the soil and make the first plantings. And right here is one reason that this sort of gardening by remote control often comes a non-cropper, for the foundation of any successful garden is the proper preparation of the soil. This is a matter that I should prefer to do or to supervise myself. I will not insist that it is impossible to have a garden unless the seed bed is prepared by the one who cultivates the crops and gathers the fruits, nevertheless, as far as I am concerned the primary requirement of a successful garden is properly prepared soil, and a seed bed as nearly perfect as it can be made, and if the rare bird can be found to satisfactorily do this for hire the question immediately arises; "How come he's not in his own garden?"

In the continuing and necessary effort to have the soil of the garden in proper shape, the use of organic materials is imperative. This material can be added to the soil either by ploughing under certain plants or crops, or by ploughing in well-rotted barnyard manure, or by the composting of organic matter in piles, and applying this material to the garden when it is in proper shape. The small kitchen garden practically rules out the use of "green manure," and for many people the procuring of well-rotted barnyard manure is not feasible. So many of those who hope for good garden soil must look to their compost piles.

Even the U.S.D.A. experts have now ceased to place their entire reliance on chemical fertilizers, and have come to the point where they advise the addition of organic matter to the garden soil. This conversion came about but recently, and their advice as to how to make a compost pile is at odds with my experience. I would be only too happy to compost lawn clippings and leaves, as they now advise, but have not been able to do so. Lawn clippings consolidate after heating (if they do not burn) into a black slimy substance which will not help your garden. Leaves simply will not decompose within any feasible period of time unless they are shredded. Most of the amateur compost piles that I have observed have been of little worth because of undecomposed leaves.

Have two piles; build them three sided of cement blocks of a size to fit your needs. Use all the garden trash which will have plenty of dirt on their roots, and all of your compostable garbage—that is everything but paper, metal and glass. If you worry about dogs, rats and flies, so be it; the choice may be between them and a good garden. Nevertheless, these unpleasant aspects can be controlled by frequent layers of garden soil and occasional dustings of wood ashes. Decomposition will be more prompt if the piles are turned, but twelve months' time should suffice, even without turning.

Those who cannot procure enough manure or make enough compost or have an adequate combination of the two, will have to resort to commercial fertilizers, and since I do not use these materials I cannot advise as to their use. Nor have I had to use agricultural limestone; perhaps the liberal use of wood ashes supplies all the calcium needed. I have mixed bone meal and wood ashes half and half and broadcast them on the garden to good effect. There will be onslaughts on my garden of one kind or another of bug or mould varying from year to year, but the damage has never been great, nor have I ever lost a crop except to frost. Thus I have not used poisons excepting only the vegetable derivative, rotenone, in a 1% mixture for dusting against flea beetles and aphids.

Organic matter is used in my garden in a lavish way, the only requirement being that the soil be in good tilth. When it is in prime condition the soil will be soft so that one's feet sink in if walking across it; it will smell sweet and in the palm of the hand will appear dark and made up of minute organic particles. When the soil is right no application of commercial fertilizers will show any beneficial effect on growth. I have demonstrated this time after time, and since such is the case I find no excuse for wasting money on fertilizers. This is heresy, I know, not because it is not true, but because the fertilizer people have to continue adding to the G.N.P.

There never need be a failure of germination if viable seed is used and the seed bed is properly prepared. Those who tell you that they have to replant their spinach for, owing to the wet weather the seed rotted in the ground, are expecting you to believe that nature is amiss. Failures in germination which are not the result of poor seed probably come from an improperly prepared seed bed. The earth must be in contact with the skin of the seed; thus after being dropped, the soil should be firmed down over the seed. Too much fluffiness in the soil or too coarse a mixture of organic matter can interfere with germination.

Do not plant more garden than can be conveniently tended. Plant rows close together: the reasons for this are threefold. First what is the sense of letting good soil lie fallow? Second the growth of the plants in many instances will shade the rows so that only one or two cultivations are necessary; and third you will get more for your labor. Except in commercial operations it is a mistake to believe that you will save in labor by having the rows widely spaced so that machines can be used to cultivate. In cases where vegetables such as peas and squash and the cabbage family which need wide spacing for proper growth, use the 'tween rows for other plantings; spinach between the peas, radishes and lettuce between the squash and cucumbers. Any quickly maturing vegetable which is removed from the garden in its earlier phases can be used for these between-row plantings.

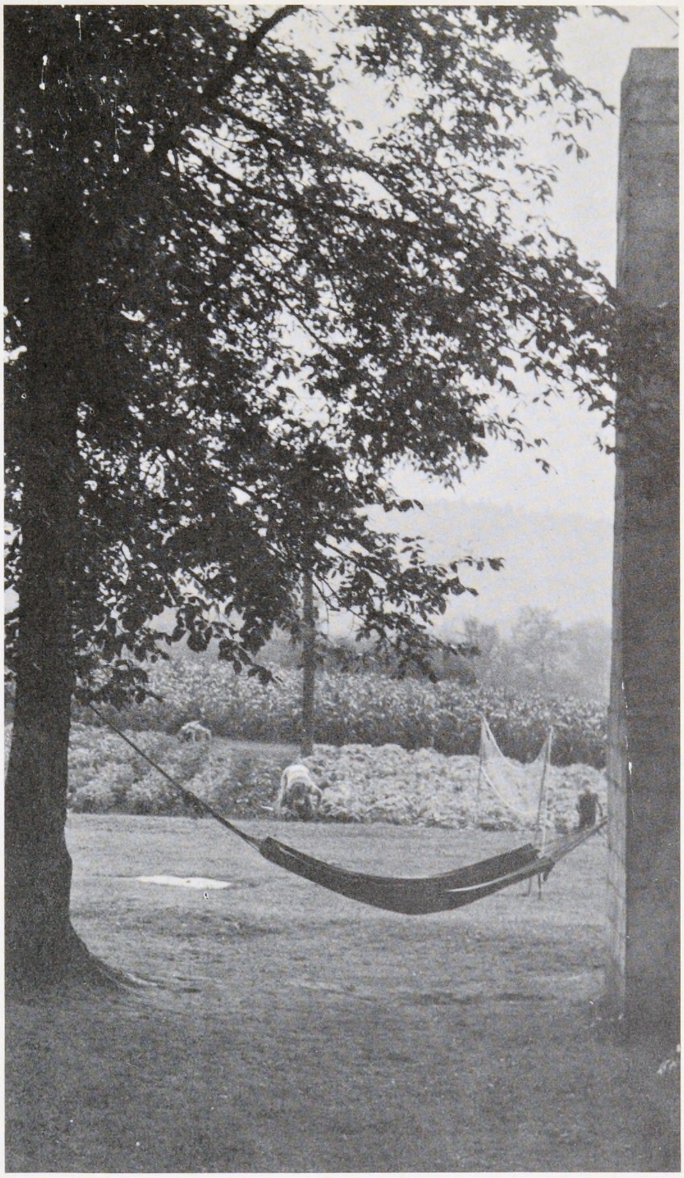
Give the first cultivation as soon as the emerging plants define the row. If the seed bed has been properly prepared, and this first cultivation is carefully done, there will be very little competition from weeds. Using these methods there will be no point in applying mulches except in certain instances. A mulch of black plastic will hasten the growth of tomatoes. Do not be timid about thinning, and when the thinning is being done on small vegetables get the weeds out from around the remaining plants. In sone instances thinning can be done for use. Beets for greens, spinach can be progressively thinned for use, as can lettuce. Carrot thinnings can be made after the roots have got to the size of a pencil or smaller. They are delicious, either raw or cooked.

As to quantities, I have not here space to hold forth upon. The catalogues and the seed packets themselves can guide one very effectively. Do not waste your space on viney crops such as winter squash or pumpkins, as these take up a lot of space. Use bush varieties; except if you like cucumbers you will have to settle for the vines. Do not grow iceberg type of lettuce; the Boston and Bibb varieties are much more satisfactory as semi-heading lettuces, and in the home garden the leaf lettuces, black seeded simpson and salad bowl are supreme.

Two recent discoveries of mine are important enough to pass along: both from Harris' of Rochester, New York. First *Gold Nugget*, an orange colored winter squash which grows on bush plants and is positively the best—the size of a slightly flattened grapefruit. Cut 'em in half, boil for 10 minutes, then dress with butter and brown sugar and bake for ½ hour. The other is the *Romano Bean*. This is a flattish snap bean which grows on a pole, and will mature more quickly than Kentucky Wonders, and in my opinion, it is the better bean of the two to eat. These are Italian beans; the ones so highly prized by those who make minestrone soup. They are tender, stringless and delicious.

The earliest maturing varieties will have to be used in Vermont gardens, and in the case of corn and tomatoes, these are hybrids. In general it will not pay to fool with raising one's own tomato plants, but the good hybrid varieties such as Harris' Moreton are expensive, and the temptation to grow your own is great. I do.

There seems to be a certain prejudice against "yellow corn," the reason given being that it is apt to be tough and tasteless. True, several of the hybrids with mixed kernels of white and yellow are delicious, but none of these that I know of mature as early as do some of the straight yellow ears. Of the former, a variety developed by Eastern States, (now Agway) called *Butter and Sugar*, is one of the very best, but it is about ten days later than Harris' *Spring Gold* which is, let no one dissuade you, tender and delicious, albeit it is a straight yellow ear. This one I plump for. Another good variety which I have not grown but have bought from Allen Bros. in Westminster and from Jim Ballard in Schuylerville, New York, is Robeson's *Seneca Chief*. This is also a yellow ear and it is just as good as any of the yellow and white ones. There is another, *Seneca 60*, which I am told is the earliest of the lot, but my report on this one will have to wait until next year when I intend to give it a try.



Lawn-bordered Ogden garden in Landgrove is laid out in four rectangles.

One other tip for Vermont gardeners: Don't expect to get good onions from sets. I can give the reasons, but not now. By far the best crops of onions to be had in Vermont are from onion plants which are grown in Texas and shipped north by parcel post, and they can be had from, among others, Montgomery Ward and Harris of Rochester. These are the large sweet spanish onions, either white or yellow, and they are supreme.

In closing let me exhort you to give your garden tender loving care; give it a close scrutiny each day. If you see something going on which seems to threaten the crop or to baffle you in any way, find out about it. But this is the point: Know what is going on, and do the necessary, whatever that may be, before it is too late. Often times no more is required than to pluck out and burn the offending plant. Nor are all the strictures concerning the rotation of crops overdone. Shift plots from year to year, religiously, and in this way avoid infestations.

Believe me there is no such thing as a green thumb without an aching back (or its equivalent); and with that kind thought I wish you happy gardening.

THANKS TO AN ENERGETIC GRANDSON AND MODERN SCIENCE, MRS. APPLEYARD SERVES

fried Perch and Fiddleheads for a Spring dinner

by LOUISE ANDREWS KENT *Photograph by* HANSON CARROLL

PERCH, properly scaled and boned, is a delicious fish. Unscaled, Mrs. Appleyard says, perch is like something Demosthenes might well have used to cure his speech defect: anyone who can speak with his mouth full of perch scales would have no difficulty in being an orator.

A good sized perch—or even small ones—skinned and cleaned with the bones removed may be cooked in various ways. But suppose you have to skin it yourself? This is something men do so much better than women that Mrs. Appleyard never does it herself. No perch without a male member of her family on the other end of the fish pole, is of any interest to her.

Directions in one of her favorite books suggest that you should cut off the tail and the head, loosen a flap of skin near the tail and, holding the other end toward you, pull off the skin as if you were taking off a tight glove. Mrs. Appleyard relies on the male sex to make such gestures. Luckily she has several grandsons. One of them caught and cleaned twenty perch yesterday. Of course, he went swimming between catching the fish and skinning them. Even the most industrious angler needs a little time off.

She cooked them the simplest way—the one she likes best.

FRIED PERCH (*for six*)

18 well cleaned perch
2 tablespoons butter, extra
½ cup milk
2 tablespoons butter
1 cup flour
2 tablespoons lemon juice
1 teaspoon each of minced chives and parsley

Use a big, well-seasoned, iron frying pan. Melt, but do not brown two tablespoons of butter in it. Dip perch first in milk, then in flour—or corn meal if you prefer. Lay perch in the pan and fry them until well-browned, about six minutes on each side. Larger fish take a little longer. Remove them to a hot platter. Put two tablespoons of butter in the pan over low heat. When it is melted, add the lemon juice, the chives and parsley and what seasonings you like—salt, pepper, paprika, a pinch of garlic powder. Heat the mixture but do not brown it: the pan will supply brown coloring. Pour sauce over the fish and serve them at once with lemon slices and sprays of parsley.

This basic method of cooking perch may be varied by using different sauces.

Tartare Sauce

Mrs. Appleyard begins this by making her own mayonnaise (*Vermont Life Cookbook*, p. 122) in the blender but any good brand will do.

1 cup mayonnaise
1 teaspoon minced parsley
½ teaspoon powdered mustard
¼ teaspoon tarragon, minced
3 tablespoons dilled cucumbers, chopped
⅛ teaspoon cayenne pepper
1 teaspoon capers, minced
¼ teaspoon chervil

(*Substitute ½ teaspoon of dried salad herbs if you do not have fresh tarragon and chervil*)

Stir all these seasonings into the mayonnaise. The sauce should stand at least half an hour so that the dressing will absorb the various flavors.

Anchovy Butter

4 tablespoons butter
Juice of one lemon
2 tablespoons anchovy paste

Melt but do not brown the butter. Add the lemon juice. When it starts to bubble, stir in the anchovy paste. Serve sauce very hot with the hot fish.

Mushroom Sauce

1 cup of homemade chicken stock
½ cup cream
1 tablespoon flour
2 tablespoons white wine
½ cup milk
1 tablespoon chicken fat
½ pound mushrooms
Salt, pepper and nutmeg

Slice the mushrooms parasol fashion and the stems in thin circles. Cook them in the chicken fat. Rub in the flour mixed with the seasonings. Add, over very low heat, the chicken stock, milk and cream, rubbing the mixture smooth. Simmer three minutes and let stand 'til needed. Just before serving, add the wine. Bring sauce to the boil but do not boil. Serve triangles of toast around the fish and pass the hot sauce.

Broiled Perch

Perch are good broiled. Any of the above sauces may be served with them or a sauce of lemon juice, butter and any mixture of herbs you have in your garden—tarragon, thyme, parsley, chives, rosemary, basil.

Heat the butter and lemon juice with the herbs, add it to the juices in the pan and pour it over the hot fish.

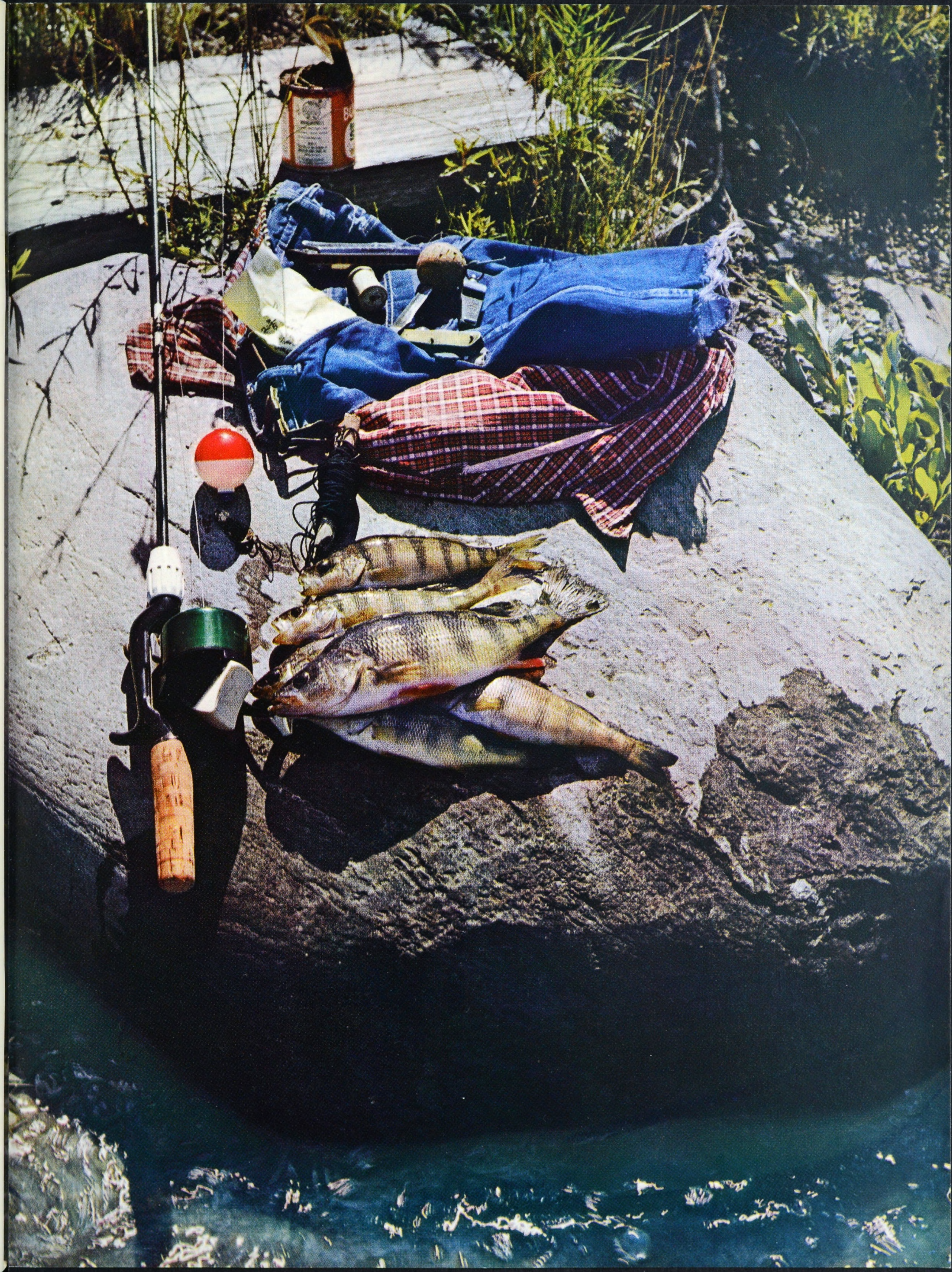
Skin good sized perch, split them and remove as many bones as possible. Baste with lemon juice. Dot with butter. Broil five minutes on one side, turn, baste with more lemon juice and butter and broil until well-browned, about five minutes longer. Decorate platter with parsley.

Fiddleheads

Apple blossoms, schools of perch and fiddleheads all mean that spring has come. You may have your own supply of fiddleheads but it is less strain on the nerves to get them frozen from S. S. Pierce. Some intelligent gourmet realized that a freezing unit could be taken to the uncoiling ferns in the part of Maine in which they are plentiful. They are cleaned, packaged and frozen on the spot. Follow directions on the package. Serve perch fried without any sauce but make Hollandaise Sauce (*The Winter Kitchen*, p. 127) to go with the fiddleheads.

New potatoes, steamed in their jackets, sprinkled with chives and parsley and with melted butter added go well with perch and fiddleheads.

Invigorated by such a combination, you ought to be ready for some of Mrs. Appleyard's Rhubarb Pie (*Vermont Life Cookbook*). She is thinking of having a Rhubarb Pie celebration to which the lucky guests will bring samples. Mrs. Appleyard will supply the first course. She hopes her grandsons will catch lots of perch. She can promise one thing: some one else will take those skins off like tight gloves!



Green Mountain

POST BOY

I DON'T OPPOSE CHANGE, BUT —

VERMONT is changing. Of course, it has been changing for quite a while now, but as I get older I find myself going "Tch-tch-tch!" at the changes more often than I used to. This could be due to the changes themselves, or it could be the result of that slow-aging process which advertisers always hail as desirable but which in my own case I find to be an awful nuisance.

Some thirty years ago when I first began spending summers and weekends and all my other spare time in Vermont, the state had a rather simple image to me. Aside from leisure and friends and lovely scenery, it meant the place where you cut wood for the fire in the morning and toasted marshmallows over the chimeny of a kerosene lamp in the evening and remembered to empty the drip-pan under the icebox before you went to bed.

At this time of year I recall especially that of all the chores, the winter wood-cutting was the most insistent because the old farmhouse we rented had been modernized to the extent of indoor plumbing. You had to keep that fire going in the kitchen stove all night, or the next morning you would have to turn on the water with a blowtorch. You could let the potbellied stove in the living room go out or the Franklin stove in the dining room, but even if it meant padding across icy floors three or four times a night you had to keep the kitchen stove popping and crackling.

This wasn't necessarily the universal image of Vermont. Even then, there were those who looked at our luxurious way of life and shook their heads at the changes in Vermont. I remember checking out possible building sites with an old neighbor, and discussing the fundamental requirement of good water. Several of the places we saw had springs, and old John pointed out that they would provide for all the needs of any family unless, he noted with a snort, you were one of those people who insisted on having a flush toilet, in which case you would have trouble finding any site where Nature would indulge such an unreasonable caprice.

Today I live in effete comfort, and I cut wood only two or three times a year so we can light a fire in the fireplace when city people visit us. My other needs are tended by an automatic oil-burner and electric refrigeration, and in place of toasted marshmallows in the evening, the boob tube stands ready to provide me with the worst of all three major networks.

We have, of course, paid a price for this modernization. Take the highway to town, for example. On one seven-mile stretch there is now a gas station, an antique shop, and a roadside stand displaying homemade maple candy. Why, it's just like Coney Island—I've heard it said.

I suppose Vermont has deteriorated. I know that old neighbor John, before he died in his house which eventually had a driven well and indoor plumbing, used to insist that this was so. I remember him fulminating in 1937 or 1938 about some suntanner from New Jersey, a wild-eyed radical named Sam Ogden, who came up to the Legislature with a hare-brained scheme for state reforestation, which was promptly slapped down. Why where would the state be in thirty years or so if they threw money around like that! Let alone forcing people to improve their land.

Of course, my image of Vermont in the thirties is not the only one. I am sure that skiers see it differently. They recall a simple world of rope tows and wood-cutting and baths in home-made hot water from a washboiler on the kitchen stove. Nowadays an enclosed chair lift is a pretty luxurious thing, but it's as old-fashioned as buttoned shoes by comparison with heated outdoor swimming pools and refrigerated indoor skating rinks and individual sauna baths. Thirty years ago the phrase *aprés-ski* would have required an interpreter, and even then it would have meant simply a jug from the state store and an impromptu quartet. Today it can mean a Broadway play or a group of Bavarian folksingers or a dimly-lighted honky-tonk named La Boutique de Booze.

I hate to denounce this trend as an evil, because I am aware that my opinions are hardening along with my arteries, but I never expected to see the day when the *Greenwich Village Voice* would carry half a dozen ads for ski clubs in Vermont.

Some people object to any change, and I still recall the attitude of a city friend who came to visit our place one summer after a lapse of some years. "Isn't it a shame!" she sympathized. "They've blacktopped your road. You must be furious!"

I mumbled that it did indeed make a change in the place—less scenic and picturesque—but I was thinking of a snowy February night several years before when I had been forced to make three tries before topping a modest little hill down the road. It was scenic and picturesque as all get out—as was my language.

Whenever I find myself moved to criticize some modern change in Vermont, I try to think how my own way of life—surely a reasonable and moderate standard—would appear to a certain sturdy pioneer, a contemporary of Peleg Sunderland and Ethan Allen. Tradition reports that this thorny old character was observed one day seated in front of his bark-roofed pitch, denouncing his uppity neighbor down the hollow. Do you know what that young fool was doing? He was actually building an outhouse; God's great outdoors wasn't good enough for him!

GERALD RAFTERY

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I certify that the statements made by me above are correct and complete.

Peter W. Sykas, s/s Business Manager

Vermont INFORMATION

Please list by number on a separate sheet of paper the items below which you wish to receive. All items are free except as noted. Appropriate listings for this page will be welcomed.

AIRPORTS

1. Vermont Airport Directory: Contains runway diagrams and complete facilities information for all public and commercial airports in Vermont. 30 pages.

2. Vermont Pilot's Airport Guide: Runway diagrams, map locations and full information on services and costs for Vermont's 21 Airports.

ANTIQUES

16. Antiquing in Vermont. Vermont Antique Dealers Association listing of all member antique shops alphabetically by town and city. 4 pages.

BOATING, SAILING, CRUISING

18. Laws and Regulations Governing Use and Registration of Motorboats. Dept. of Public Safety. 18 pages.

45. Vermont Boating Map. Gives locations of principal boat launching areas in the state. Fold-out.

CAMPING, PARKS, BEACHES

63. State Camp Grounds. Diagramatic plans of all camp sites shown for each state park. $1.

5. State Parks and Forests—Camping Sites. Fold-out pamphlet listing facilities for year 'round camping and hiking.

19. Vermont Private Campgrounds. Vermont Assoc. of Private Campground Owners and Operators. Lists the member campgrounds, facilities, and locations.

CAMPS, BOYS & GIRLS

17. Vermont Camps for Boys and Girls. Lists 97 summer camps, their activities, programs, facilities, locations, dates and rates. 23 pages.

CANOEING

20. Canoeing on the Connecticut River. Booklet providing essential information on portages, camping facilities, water conditions, distances and necessary gear. 16 pages.

COLLEGES AND UNIVERSITIES

12. The Vermont Colleges. General information on the 19 colleges which are members of the council. 20 pages.

COVERED BRIDGES

21. Vermont Covered Bridges. Map of covered bridge locations throughout the state.

CRAFTS

62. Vermont Vacation Guide to Craft Shops, Gift Shops & Country Stores. 2-color fold-out brochure.

64. The Crafts in Vermont. With new directory of Vermont Craftsmen, published by State Arts and Crafts Service.

EVENTS

3. Vermont Department of Recreation. Folder listing conferences and work-shops on outdoor recreation.

22. Vermont Calendar of Events (by season). Lists events in chronological order with locations, hours and admission fees. 25 pages.

FAIRS

27. Fairs and Exhibitions. Pamphlet listing 14 fairs from June through September. 2 pages.

FISHING

24. Vermont Fishing Guide. Included in the folder are general fishing information and a fish distribution map.

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Montpelier, Vermont 05602

25. Vermont Fishing Access Areas and Impoundments—This booklet locates fishing areas and can be easily used in conjunction with a road map. 52 pages.

26. General Fish and Game Laws. Condensed information on hunting and fishing laws for State of Vermont.

FOLIAGE

47. Fall Foliage Brochure. A fold-out listing 13 selected foliage tours throughout the state with guide map.

HIKING

29. Short Walks on the Long Trail. Gives general information on the Long Trail and more detailed information on shorter hikes available.

HISTORICAL

4. Vermont Historic Sites. Location and description of historical markers and places of historic interest, plus chronological listing of Vermont historical events. 47 pages.

30. The Story of Old Vermont in Pictures. Includes 44 reproductions of original historical drawings. 44 pages.

HUNTING

13. Vermont Hunting Guide. A brochure giving information on licenses and game distribution.

INDUSTRY, VERMONT PRODUCTS

31. Vermont Directory of Manufacturers. Data on industries in the state, giving alphabetical, product, topical and geographical listings of manufacturers.

LIBRARIES, BOOKS

7. Free Public Library Biennial Report. Booklet listing statistics and legislation on Vermont libraries. 30 pages.

11. VHS 1967 Book List. Lists all publications dealing with Vermont history and traditions. 6 pages.

LODGING, EATING

32. Vermont Visitors Guide to Lodging and Eating Places. Covering highways, climate, sports, fairs, rates and accommodations.

MAPLE SUGAR GROVES

14. Vermont Maple Sugarhouses. Booklet listing and locating sugarhouses open to the public.

15. Vermont Maple Syrup and Sugar. Booklet explaining the syrup making process. 16 pages.

MAPS

33. Please Practice Safe Driving in Vermont. Vt. Dept. of Highways. Fold-out map locating current construction areas in the state.

34. Price List of County Maps. Vt. Dept. of Highways.

35. Official Highway Map of Vermont. Includes color pictures and descriptions of the state's attractions.

60. Vermont. A map and guide to summer and winter activities in the state.

61. Vermont Attractions. Vacation map and guide to major attractions in the state.

MUSEUMS

36. Shelburne Museum. Fold-out including description and general information on the museum and its more than 40 reconstructed buildings and contents.

37. Steamtown, U.S.A. A fold-out brochure describing the locomotive museum and excursion trips.

MUSIC, SOCIETIES, FESTIVALS

38. Music in Vermont. Vt. State Symphony. Brochure giving the orchestra's history and lists of musicians and association members.

PHOTOGRAPHY, CLUBS, EXHIBITS

42. Photogenic Vermont. A fold-out brochure locating the unusually scenic spots in the state for picture taking.

QUARRIES

43. The History of Granite. A booklet explaining formation, quarrying, processing and uses of granite. 18 pages.

48. Marble Exhibit. A folder describing the marble exhibit in Proctor.

REAL ESTATE FOR SALE

39. Roster of Licensed Real Estate Brokers & Salesmen. Vt. Real Estate Commission. 33 pages.

40. Vermont Rural Real Estate for Sale. Pictures, describes, locates and gives prices for a large number of Vermont farms, homes and acreage for sale. 70 pages.

REAL ESTATE FOR RENT

41. Vermont Four Season Vacation Rentals. Houses and cottages located, listed, described and priced under towns in alphabetical order. 48 pages.

RIDING CLUBS, SHOWS

44. The Morgan Horse. This 4 page booklet gives the history and characteristics of the Morgan Horse.

SKIING

49. Vermont Skiing Guide. Vt. Dev. Dept. Lists, describes and locates Vermont's 42 ski areas together with rates and lodging information. 16 pages.

TRANSPORTATION

50. Ski Bus Service. Vt. Transit Co. Schedule of bus runs to the state's ski areas.

51. Lake Champlain Ferry Crossings. Schedules of the five ferry crossings on Lake Champlain. Fold-out.

52. Vermont Transit Lines Timetable. Bus schedule including Montreal, Burlington, Albany and New York as well as major Vermont points.

VERMONT

58. Vermont, The Green Mountain State. Vt. Dev. Dept. A fold-out giving pertinent information about the state and displaying the state flag, coat of arms and other state symbols.

59. Vermont, The Beckoning Country. Beautifully prepared booklet, 60 full-color illustrations and 8,000 words describing the vacation opportunities in Vermont, season by season. 36 pages. 25¢

Who walked in glory and in joy
Following his plow, along the mountain-side.

WILLIAM WORDSWORTH